NATUR CYMRU
Nature of Wales

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- Wild daffodils
- Terns at Cemlyn
- Wild cats / Cathod gwyllt
- Newborough forest
- Gwylio adar yr ardd
- Brown hares
- Ospreys
- Books, News, Comment...

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NATUR CYMRU
Nature of Wales

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NATUR CYMRU GOLYGYDDOL

Mae'r gwanwyn yma o'r diwedd, ac mae amryw ohonom yn teimlo cyffro'r tymor yma o flaguro yn ein gerddi. Mae lliaws o gennin Pedr melyn yn dal i fynnu sylw, er y gellir dadlau nad ydynt yn gymaint o symbol o genedligrwydd ag yr ydym yn cymryd eu bod; mae'r teitl yma'n perthyn i'r genhinen Bedr frodorol brin sy'n prysur ddiflannu. Ond mae newyddion da am y blodyn amheuthun yma, a swynodd gymaint ar William Wordsworth, mewn un gongl o Eryri o leiaf.

Mae hon yn adeg hollbwysig o'r flwyddyn i'n hadar gardd, y mae eu prysurdeb cynyddol yn cynnwys corws y wawr, arddangosfeydd tiriogaethol, casglu deunydd nythu ac ati. Mae mwy o rywogaethau nag erioed yn dod o hyd i gartref yn ein gerddi. Yn ogystal â gwylio eu campau yn eich gardd, gallwch gyfrannu gwybodaeth werthfawr i'r prosiect BTO Garden BirdWatch. Os ydych yn byw yn ne Cymru, rydych yn ffodus fod gennych ddau hyrwyddwr i'ch helpu i gymryd rhan.

Ni fydd rhai adar yn nythu mewn gerddi. Achosodd cyrhaeddiad y gweilch y pysgod cyntaf erioed i'w cofnodi fel rhai sy'n magu yng Nghymru ychydig o flynyddoedd yn ôl gynnwrf mawr gan arwain at greu atyniad i ymwelwyr a ddaeth â chymuned gyfan at ei gilydd. Yma rydym yn diweddaru'r stori, gan ganolbwyntio ar leoliad arall i weilch y pysgod, a gobeithio am newyddion gwych eleni.

Ar ôl rhai tymhorau ofnadwy, mae yna hefyd newyddion da i'w adrodd o'n cytref bwysicaf o fôr-wenoliaid, lle mae môr-wenoliaid cyffredin, môr-wenoliaid y gogledd a môr-wenoliaid pigddu i gyd yn magu. Nid y ffaith fod tywydd yr haf yn well na bod mwy o fwyd ar gael sy'n gyfrifol am hyn. Dyma lwyddiant y brwydrodd wardeiniaid y gytref yn galed i'w ennill, trwy ddod o hyd i ffyrdd o ymladd peth o'r aflonyddwch a'r ysglyfaethau sy'n bygwth y môr-wenoliaid trwy gyfuniad o ddycnwch a thechnoleg ddeallus.

O'u rheoli'n dda ac o gael digon o amser, gall planhigfeydd drawsnewid yn goedwigoedd. Hanner can mlynedd yn ôl plannwyd pinwydd Corsica yn bennaf ar hyd ardaloedd eang o dwyni tywod yn Niwbwrch ar Ynys Môn, heb roi fawr o feddwl i fywyd gwyllt. Erbyn hyn mae'r twyni a'r coed, a'r darnau rhyngddynt, yn cynnal cyfoeth o fywyd gwyllt. Mae un erthygl yn edrych ar anifeiliaid di-asgwrn-cefn y twyni, y blanhigfa a'r goedwig agored, ac yn cynnwys rhai canlyniadau diddorol dros ben, a seiliwyd ar dystiolaeth gadarn. Mae un arall yn edrych ar rai o'r materion ecolegol. Dylai'r ddwy fod o gymorth i'r ddadl ynghylch rheoli'r ardal bwysig hon yn y dyfodol.

I gwblhau'r gyfres o brif erthyglau ceir erthygl delynegol yn disgrifio cyfarfyddiad ag ysgyfarnog ac erthygl bwysig am y cathod mawr a ddylai berthyn i'n cefn gwlad mewn gwirionedd (yn wahanol i'r rhywogaethau mwy egsotig y mae llawer o bobl yn hoffi meddwl eu bod yn byw yno ond na ddylent fod yno). Rhaid cofio hefyd am y llawnder o erthyglau nodwedd rheolaidd.

Felly unwaith eto mae gennym gylchgrawn llawn i'r ymylon; a dweud y gwir, nid wyf wedi gallu cynnwys amryw o erthyglau y tro yma, oherwydd diffyg lle. Os ydych chi'n un o'r darpar gyfranwyr teilwng, gallaf ond eich annog i roi dipyn o sglein ar eich erthygl a'i hail-gyflwyno. I mi o leiaf, mae amrywiaeth ac ansawdd y deunydd sydd wedi bod yn fy nghyrraedd yn arwydd boddhaol o lwyddiant y cylchgrawn.

Mae yna nifer o bynciau nad ydym wedi eu crybwyll eto - hoffwn blethu ychydig o archaeoleg i'r cymysgedd rywbryd, er enghraifft. Mae yna gynlluniau i helpu gydag ymdrechion cofnodi biolegol; hoffwn roi mwy o sylw i waith y Canolfannau Cofnodion, efallai trwy erthygl ar y cofnodion diweddar mwyaf cyffrous. Mae bodolaeth y pedair Canolfan Cofnodion ragorol ar draws Cymru yn gyrhaeddiad sy'n haeddu ei ddathlu a'i gefnogi.

James Robertson

NATUR CYMRU EDITORIAL

Spring is here at last, and many of us feel the excitement of this season of burgeoning growth in our gardens. Swathes of yellow daffodils are still commanding attention, although arguably they are not quite the emblem of nationhood that we take them to be; this title belongs to the scarce and declining native wild daffodil. At least in one corner of Snowdonia there is good news about this dainty flower, whose hosts so transfixed William Wordsworth.

This is a crucial time of year for our garden birds, whose heightened activity includes dawn choirs, territorial displays, collecting nesting material and so forth. More species than ever are finding a home in our gardens. As well as watching their antics in your garden, you can contribute valuable information to the BTO Garden BirdWatch project. If you live in South Wales, you are lucky to have two champions to help you get involved.

Some birds are not going to nest in gardens. The arrival of the first ospreys ever recorded as breeding in Wales a few years ago caused great excitement and prompted the creation of a community-uniting visitor attraction. Here we update the story, concentrating on another osprey location, and hope for great news this year.

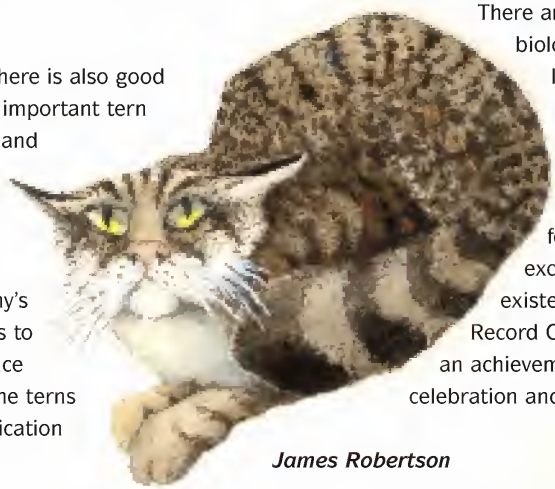
After some terrible seasons, there is also good news to report from our most important tern colony, where common, arctic and sandwich terns all breed. This is not the result of better summer weather or more food availability. It is a success hard won by the colony's wardens, who have found ways to combat some of the disturbance and predation that threaten the terns through a combination of dedication and smart technology.

When well managed and given sufficient time, plantations can transform into forests. Large areas of sand dunes at Newborough on Anglesey were planted, mainly with Corsican pine, half a century ago with little thought for wildlife. Now both dunes and trees, and the bits in between, support a wealth of nature. One article looks at the invertebrates of dunes, plantation and open forest, with some fascinating, soundly-based results.

A lyrical article about an encounter with a hare and an important one about the big cats which should really be part of our countryside (unlike the more exotic species than many people like to think inhabit it but shouldn't) complete the tally of main articles. Then there is a full house of regular features.

So yet again we have a packed magazine; in fact, I have had to put several articles on hold this time, for lack of space. If you are one of the worthy would-be contributors, I can only urge you to polish up your article and resubmit it. The variety and quality of the material I have been receiving is, for me at least, a gratifying measure of the success of the magazine.

There are still many subjects which we have yet to cover – I would like to weave a little archaeology into the mix at some point, for example. There are plans to help with biological recording efforts; I would like to give more prominence to the work of the Local Records Centres, perhaps through a feature on the most exciting recent records. The existence of the four splendid Record Centres across Wales is an achievement worthy of celebration and support.



James Robertson

Rob Collister

Wild daffodils

Yellow daffodil trumpets are a ubiquitous sign of Spring, not only in gardens but also on roadsides, in hedgerows, in fields and in woods. Yet they have none of the exquisite beauty of the rare wild daffodil, the true national emblem. Although our native daffodil is in serious decline, there are places where it has prospered, with a little help from its friends. ***ROB COLLISTER*** *and* ***ROD GRITTEN*** *tell the story of a wild daffodil recovery in the hills above the Conwy valley, and the possible roadside return of the native.*

One day towards the end of March my wife, Netti, and I were joined by Rod and Julie Gritten for a walk up a wooded hillside above the Conwy valley. It was a glorious sunny day, warm and still, even though there was snow on the hills above and a skim of ice lingered on shady puddles. As we walked across some ffridd pasture, admiring wide views down onto the river Conwy, suddenly we glimpsed a haze of yellow across a small dry valley, through leafless branches on the slope opposite. Over the next hour or so we found wild daffodils growing everywhere over an area of about 400 x 300 metres that could perhaps best be described as wood pasture, even forcing their way in isolated clumps through a thick blanket of dead bracken. But they seemed at their most prolific in damper or shadier spots where the bracken had failed to establish itself. In such a setting we could understand exactly why Wordsworth was so entranced. I think both Rod and I felt a degree of pride as well as pleasure at the spectacle, for it represented the fruition of a successful conservation project.

Rod Gritten

For me, the story began a long time ago. One day I was out wandering the ancient field systems of the northern Carneddau, investigating its wealth of prehistory, when I came on a green notice board that said "Please do not pick the wild daffodils". It had been erected by the North Wales Naturalists Trust (now the North Wales Wildlife Trust), but it looked old and faded even then, over 30 years ago, and the rotting stile over the wall seemed on its last legs. With anticipation, I crossed the wall but found not a trace of any daffodils. Over the years that followed the sign grew older, the lettering ever fainter, and crossing the wall increasingly acrobatic, but I did discover a damp corner where a number of daffodil leaves could be found but always nibbled by sheep, with never a flower to be seen.

Then, one spring about seven or eight years ago, to my surprise and delight, I discovered a sheltered re-entrant awash with yellow and took a number of photos to record the scene. However, it proved to be a one-off and over the next few years there were never more than two or three blooms at best to be seen, and often none at all. The land was so smothered in bracken that succulent green shoots must have been manna from heaven to hungry sheep. It seemed to me that if the sheep could be taken off this piece of land for just a few months every year, these delightful plants, smaller and more delicate than their garden counterparts, could thrive rather than simply survive. But how to achieve that? No farmer would sacrifice grazing, however poor, for flowers.

As luck would have it, I started to go climbing on summer evenings after work with Rod Gritten, then Senior Ecologist for the Snowdonia National Park. Chatting on a stance halfway up a crag – it may have been Clogwyn y Wenallt in Nant Gwynant – I mentioned the daffodils and Rod's response was immediately interested and positive. I'll let him take up the story.....

Rob Collister

Rob and Rod enjoy the spring sunshine

Rod continues...

The notion that wild daffodils, or to give them their rather clumsy Latin name *Narcissus pseudonarcissus ssp pseudonarcissus* might still survive in the wild was intriguing. Rob took me to have a look late the next January and sure enough, tiny green spears of emergent leaves were forcing their way through the frost encrusted bracken litter. But each one I examined showed the tell-tale nibbling by sheep and it was clear that none of these plants would survive to flower.

At this time, the National Park had its own very successful agri-environmental scheme, Rhaglen Tir Eryri. I discussed the situation with one of the scheme's Field Officers and he agreed to investigate the possibility of funding a rescue plan. It took some time for me to discover who the landowner was but I was much more successful in tracking down the history of the Wildlife Trust's involvement. The site had been well known and protected by the Trust but historical changes had occurred: management neglect and decades of winter grazing by sheep had all but obliterated this rare patch of a truly native daffodil.

To cut a long story short, Rhaglen Tir Eryri discussed the management of the site with the landowner, who agreed to let the scheme pay for a new stock-proof fence to be erected around the site, two new stiles and some judicious bracken spraying. The landowner was also in full agreement to exclude his stock during the late winter/early spring. The rest, as they say, is history. A very special place, tucked away off the beaten track, is now awash with the subtle yellow of this lovely plant with its blue-green leaves and diminutive form.

Rod Gritten

But that is by no means the end of the story. I had been closely involved in a number of high-profile road schemes in the Park being undertaken by Gwynedd Highways and the Assembly Trunk Roads Directorate, and the issue of bulb planting on the new verges frequently arose in the Environmental Liaison Group meetings. I have always felt quite uncomfortable about the 'urbanisation' of roadside verges in the wild scenery of the Park, caused by the indiscriminate planting of large blousy daffodil cultivars. Why not investigate the possibility of arranging for a nursery to collect seed from the native daffodils in the Conwy valley, grow them on to the bulb stage and sell them back to the Highway Authorities for roadside verge planting? This is a long-term commitment since it takes some seven years to establish viable bulbs from seed but it is not only good for nature conservation but is also good for the local economy. As I understand it, this idea is receiving serious consideration by the Park and the Conwy wild daffodils are currently being DNA tested to make sure they are of pure stock. Let's hope so – they certainly have all the characteristics of our native daffodil.

Rod Gritten *was the Senior Ecologist for the Snowdonia National Park for many years until he left in 2008 to set up his own ecological consultancy. He now specialises in plant surveys.* ***Rob Collister*** *is a mountain guide, these days working mostly in Switzerland and north Wales.*

Rod Gritten

Cennin Pedr Conwy

Sgwrs rhwng dau ddringwr ar wyneb clogwyn yng ngogledd Cymru sbardunodd y gwaith i achub y genhinen bedr wyllt yn Nyffryn Conwy. Nid oedd angen hysbysfwrdd yr Ymddiriedolaeth Bywyd Gwyllt leol i rybuddio pobl rhag pigo'r cennin pedr ar y ffridd - roedd y defaid yn sicrhau nad oedd blodyn i'w weld fyth ar y safle! Yn ffodus daeth Rhaglen Tir Eryri, cynllun a ariannwyd gan arian Ewropeaidd, i'r adwy. Ar ôl codi ffens newydd, trin y rhedyn a chael cytundeb y ffermwr i dynnu'r stoc oddi ar y tir yn ystod y gaeaf a'r gwanwyn mae'r llethr bellach yn garped o liw melyn ym mis Mawrth.

Ac mae'r stori'n parhau. Oherwydd gofid un o'r dringwyr, a ddigwyddai fod yn ecolegydd gyda Pharc Cenedlaethol Eryri, am yr arfer o blannu cennin pedr gardd ar ymylon ffyrdd newydd fe awgrymodd y gellid meithrin hadau cennin pedr gwyllt Conwy er mwyn eu plannu drachefn yn fylbiau ar ymlyon ffyrdd Eryri. Mae'r syniad wedi cydio ac mae profion DNA wrthi'n cael eu cynnal ar y cennin pedr hyn er mwyn gweld a ydynt yn rhai pur.

Ben Stammers

Terns at Cemlyn

Sandwich tern with sand eel

After some terrible seasons, 2009 was a welcome good news year for sandwich tern conservation at Cemlyn nature reserve on Anglesey, writes ***BEN STAMMERS****; but is there a future for this species in Wales?*

Mel Parry

Birdwatcher at Cemlyn

A big collective sigh of relief went up from North Wales Wildlife Trust staff, wardens and volunteers involved in protecting the Cemlyn tern colony when, in July 2009, chicks started to reach fledging age, and it seemed safe to assume that the season was a success. It had been a very different story the previous two summers, when combined factors resulted in next to no output of fledged young, and a looming prospect that continued failure might trigger wholesale desertion of the breeding site.

The bleak context of the previous two breeding seasons is clear from the statistics – a combined total of 1,619 nesting attempts over the two years, from which only 19 fledglings were produced. A key problem in both these years was predator and disturbance pressure.

Some loss of tern eggs and chicks to herring or great black-backed gulls occurs during most Cemlyn seasons, and in some years one or two individual gulls seem to specialise in this source of food, and become persistent offenders. As the colony has been a thriving 'factory' of chicks for many years, it is inevitable that it will attract the attention of these opportunists.

In 2007 and 2008 however, the wardens identified a further, hitherto unknown threat to the terns: nocturnal raids by grey heron. These seemed to have a particularly unsettling effect on the colony, as perhaps did repeated attempts by greylag geese to swim onto the islands at dusk to roost. Whereas daytime aerial predators are generally greeted with a vigorous defence by terns and black-headed gulls, night-time response is limited, and the result of stealthy visits by herons appears to have been not only loss of tern chicks, but also loss of confidence by the remaining parent terns in the site's safety. This, combined with wet and windy weather during the crucial chick-rearing time, seemed to be tipping the colony over the edge.

Stronger protection measures

In 2009, the Wildlife Trust made a determined effort to step up the surveillance and disturbance-prevention measures at Cemlyn, both before and during the season. Enlisting the help of dedicated volunteers was an important step – they, along with the summer wardens and other Wildlife Trust staff, put in many unsocial hours on Cemlyn ridge to maintain a round-the-clock vigil on the colony. They also set about trying to discourage unwelcome visitors, and make the site as safe as possible for the terns.

A low wire fence-line was put up encircling the two islands in the Cemlyn lagoon: since both herons and geese had been seen reaching the islands by wading or swimming, rather than flying in, we hoped to make this means of access more difficult. Observations during the season suggested that this was at least partly successful: a roosting party of geese was seen to turn away on reaching the wire. Favourite nearby look-out perches for gulls and corvids were also made un-usable before the start of the season.

A more pro-active and technologically innovative strategy was also employed through the night-time use of laser-pointers. These gadgets, which can be used to point out stars and constellations, or parts of projected images on a screen, emit a powerful, but very precise light. Whilst leaving the colony as a whole in peace, they proved very effective in

Ben Stammers

*Cemlyn nature reserve is an important site for breeding **Common**, **Arctic** and **Sandwich Terns**, holding over 10% of the UK population of the latter in some years. The terns nest, along with **Black-headed Gulls** on two small islands in a brackish lagoon overlooked by a shingle ridge. The proximity of the islands to a viewing area on the ridge, as well as the presence of North Wales Wildlife Trust summer wardens, makes it one of the best places to see terns close-up without causing disturbance.*

annoying and warding off not only individual nocturnal herons, but also geese and a loitering peregrine at dusk. This highly selective repellent promises to be a crucial part of the summer wardens' armoury, since virtually all other means of scaring away individual predators run the risk of disturbing the terns in the process. The Wildlife Trust has received enquiries about the potential use of the method for tern colonies elsewhere.

It could be argued that this kind of interventionist measure is meddling in the natural processes of predation and survival. Or for that matter, that the whole business of protecting one species in favour of another is 'gamekeeping' or 'playing God', and therefore intrinsically unethical. Even within conservation, priorities can shift between species – could an interesting eco-theological dilemma arise when herring gull, for example, attains a higher Bird

Ben Stammers

Sandwich tern

of Conservation Concern status than sandwich tern?

If I am asked this kind of question by someone on the ridge at Cemlyn, the somewhat contingent response that I usually end up giving is that it's a matter of context. The human context is that our contemporary environment is the legacy of previous millennia of meddling and intervention – in that sense we're already implicated, and you could say we have an obligation to redress the balance. The ecological context is that you often have all your eggs in very few baskets – that human legacy having drastically narrowed available options for a lot of species. Populations may be clinging on in nature reserves or special sites because there's nowhere else for them to go. If you accept that intervention is justifiable in such circumstances, then it can become a matter of numbers – i.e. an individual herring gull versus the fate of an entire colony.

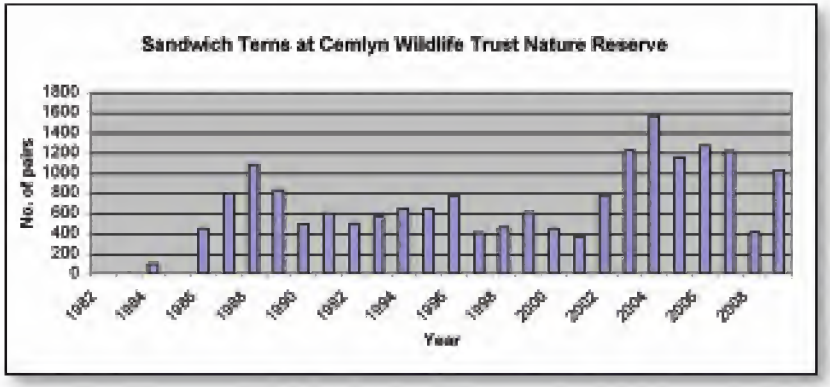
Uncertain future

Tern colonies can show a disconcerting readiness to up sticks in response to either changes in habitat or persistent predation, and to switch sites altogether. While this flexible tendency may actually have stood terns in good evolutionary stead historically, as users of marginal, sometimes transient coastal habitat, today's crowded, developed or overly-dog-walked coast offers very little in the way of suitable alternatives if the existing site becomes unattractive. Hence our worry with Cemlyn, Wales' only sandwich tern site – another bad season might have persuaded them to abandon, and the nearest possible alternative colonies are in the north of Ireland, south-east Ireland, or Cumbria.

Tern productivity is given to dramatic fluctuation, like that of other relatively long-lived birds whose species reproducibility may be as dependant on good adult survival as on minimum output of young in a given year. In that sense, as long as the parents survive to try again, a couple of failed seasons here and there may not be the end of the world. In our habitat-shrunk environment, however, if persistent problems cause a site itself to become unattractive, colony upheaval may have more serious long-term implications for the population.

This squeeze on the species may be compounded in the future as the population reacts to changes in prey availability or, more specifically, the timing of prey availability in certain areas, as a result of rising sea temperature. There is also the possibility that the physical structure of many sites themselves (including Cemlyn) could become vulnerable to destructive effects of sea-level rise and climate change.

Sandwich terns seem to have quite specific requirements for breeding. They like flat, open, sparsely vegetated coastal ground, preferably out of reach of ground predators, and preferably amongst existing tern or black-headed gull colonies. They also need reasonable proximity to available fish. Research on feeding areas for terns, including recent studies by the Joint Nature Conservation Committee at Cemlyn and other colonies, suggests that the calculations of distances and journey time spent



finding prey may be crucial factors for parent sandwich terns. It also points to a possible conflict of interest with marine current turbines, which tend to be proposed in those very locations which are also good feeding areas, such as tide-races or other places where fish are regularly forced close to the surface.

Tern history at Cemlyn

Sandwich terns started breeding at Cemlyn in the 1980s, once the black-headed gulls had established themselves (there is apparently no evidence of breeding in Wales before that time), and the numbers have built up since then, with a high of 1,563 pairs nesting in 2004, making it one of the top three sites for the species in the UK. The importance of maintaining Cemlyn as a sandwich tern site seems clear from this but, in thinking about the future, so too perhaps is some consideration of alternative site provision.

Where else could sandwich terns go? How can we make existing sites more suitable and attractive? Would the creation of artificial sites work – rafts for example, which have proved successful with common and arctic terns? In practical terms, how do you persuade such gregarious birds to colonise a site without others of their kind already in situ? These questions will continue to challenge those involved in conserving sandwich terns throughout the UK.

In the meantime, those of us working in north Wales feel privileged that, for the time being, these elegant, fascinating birds seem to see Cemlyn as a good place to make a nest-scrape, and raise a family.

Born and brought up in north Wales, ***Ben Stammers*** *is a visual artist and naturalist. He gained experience as a seabird warden at sites in Wales, Ireland and the Shetlands, and currently works for the North Wales Wildlife Trust as People and Wildlife Officer.*

Oes dyfodol i forwenoliaid Cemlyn?

Mae morwenoliaid Cemlyn wedi dioddef yn ddiweddar. O'r 1,619 ymgais i fagu dros y ddwy flynedd ddiwethaf, dim ond 19 cyw sydd wedi llwyddo hedfan o'r nyth. Cyfuniad o ysglyfaethu, aflonyddu a thywydd gwael sydd wedi bod yn gyfrifol am hyn. Bu morwenoliaid pigddu yma ers y 1980au a hwn yw un o'r tri safle pwysicaf yn y DU.

Gwylanod penwaig a chefnddu mwyaf yw eu hysglyfaethwyr traddodiadol ond ers 2007 mae creÿrod llwyd wedi bod yn ysbeilio'r nythod gyda'r hwyr. Llwyddwyd eu gyrru draw llynedd gyda phensiliau golau laser. Gall ysglyfaethu neu newidiadau yn y cynefin orfodi morwenoliaid i newid safle. Ond prinhau mae'r dewis o safleoedd addas. Pe bai morwenoliaid Cemlyn wedi cael un tymor gwael arall fe allent fod wedi gadael – ac mae'r poblogaethau agosaf yn Iwerddon a Chumbria.

Efallai bydd newid hinsawdd yn effeithio ar eu cyflenwad bwyd a'u cynefin yn y dyfodol. Mae'r adar hyn yn nythu ar dir agored a gwastad allan o gyrraedd ysglyfaethwyr – ac, o ddewis, ymhlith morwenoliaid eraill a gwylanod penddu. Rhaid cael cyflenwad cyfleus o bysgod hefyd a gallai tyrbinau cerrynt môr effeithio ar hyn yn y dyfodol. Er pwysiced cynnal safle Cemlyn rhaid meddwl am le arall addas ar eu cyfer. Mae morwenoliaid cyffredin a rhai'r gogledd wedi cymryd at rafftiau, ond anoddach yw darparu ar gyfer rhywogaeth sydd mor hoff o gwmni adar eraill.

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The wild cats of Europe

Scottish wildcat *Felis sylvestris grampia*

*The 'big cats' of Africa, Asia and America play a prominent part in our everyday lives, either in wildlife programmes or as icons in the world of commerce, politics or sport. But what about the wild cats of Europe? **ANDREW CURRIE** argues that we should also take pride in the cats of our own continent, as well as considering welcoming some of them back to Wales.*

There are 37 species of wild cat across the world, and they are native to every continent except Australia and Antarctica. Nevertheless, we hear virtually nothing of the 30 species which weigh less than 50kg. How many of us, for instance, are aware that a European cat is the most critically endangered species in the world? We have three different cats in Europe. Here's a brief description of each one:

The Iberian lynx

The Iberian lynx *Lynx pardinus* is a medium-sized cat (8-16kg), and the only species which lives entirely on the continent of Europe and wholly within the territory of the European Union. As the name suggests, its home is the Iberian Peninsula, and in the middle of the 19th century it could be found across Portugal and Spain. Since then, human activity has caused enormous problems for this beautiful cat. Apart from seeing a significant drop in the numbers of its main prey, the European rabbit, after myxomatosis was deliberately introduced to control their population, the Iberian lynx is hunted, killed on the roads, and is losing

its habitat as a result of intensive agriculture and deforestation.

As recently as twenty years ago, it was estimated that there were between 900 and 1200 in Iberia, which is a low enough figure in itself, but by today only about 200 remain in the wild, all in the province of Andalusia. This means, unfortunately, that the Iberian lynx is now the most critically endangered species of cat in the world. In response to this crisis, a number of movements, among them SOS Lynx (www.soslynx.org) and Ecologistas en Acción - Andalucia, have been established to try to improve the situation. A breeding programme has led to a captive population of 76, some of which, it is hoped, will be released into the wild. However, the circumstances which led to the current crisis have by

Stefan Reicheneder

European wildcat *Felis sylvestris*

no means disappeared, and the Iberian lynx still has a long road ahead of it.

The European wildcat

The wildcat, *Felis sylvestris*, lives across Asia and Africa as well as Europe. The European wildcat *F. sylvestris sylvestris* is therefore a subspecies, and the main difference between it and the others is that its preferred habitat is woodland and forest, and its physical characteristics reflect that. The oldest of the subspecies, with black stripes across its body and black rings on its tail, it looks like a muscular housecat (3-8kg). Ironically enough, domestic cats are the largest threat to its future, as our pet cats are also a *F. sylvestris* subspecies, which means that they can interbreed easily and create hybrids. In this sense, the relationship between them is similar to that between the wolf and the domestic dog.

This is the only wild cat still surviving in Britain today, and only about 400 are left. Now restricted to the Scottish Highlands, a number of bodies like The Scottish Wildcat Association (www.scottishwildcats.co.uk) and the Highland Tiger project (www.highlandtiger.com) have been formed to protect 'pure' wildcats. Having evolved separately on this island for 9,000 years, some argue that the Scottish wildcat itself deserves the status of a subspecies, namely *Felis sylvestris grampia*.

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Eurasian lynx *Lynx lynx*

The Eurasian lynx

The Eurasian lynx *Lynx lynx* is the largest of the lynxes and Europe's largest cat. Usually weighing between 12 and 32 kg, it is significantly larger than the Iberian lynx. As a result of its size, the most important difference between this and the smaller cats is that deer, particularly roe deer *Capreolus capreolus*, are its main prey, rather than rabbits and rodents. Despite this, the lynx is not one of the 'big cats'. Indeed, it could be argued that it is the ideal size, being big enough to hunt our largest deer, but not big enough to represent a threat to humans. There is not one example of the lynx attacking people, not even in the traditional legends of Europe, which means that attitudes towards it are different, for instance, than attitudes towards the wolf.

Although the lynx's homeland traditionally extended across Eurasia from the Atlantic coast in the west to the Pacific in the east, it disappeared almost completely from Western Europe, for reasons similar to the Iberian lynx. Its strongholds now are the northern lands from Scandinavia to Siberia, as well as Eastern Europe, particularly the Carpathian Mountains. There are smaller populations in countries like Germany, Switzerland and France, but these have all been reintroduced. It is known that, at one time, the lynx used to live across Britain and Ireland.

The Welsh connection

Of the three species above, we know that two of them (the wildcat and the Eurasian lynx) were native to Wales in the past. It's not known exactly when Wales saw its last lynx, but undated remains have been found in two caves in Denbighshire. Also, following recent academic research it is thought that the word *llewyn*, which appears in a lullaby in one of Welsh literature's most famous manuscripts, the Book of Aneirin, refers to a lynx. The piece in question, Pais Dinogad, dates from the 7th century, and is kept in Cardiff Central Library. It should be noted, however, that the geographical location of the piece is the 'Old North', rather than the current boundaries of Wales.

The fate of the wildcat in Wales is easier to follow, as it lived here until the second half of the 19th century. The most recent record we have is of one which was shot at Abermule, Montgomeryshire, in 1862, and it's likely that mid Wales was the last stronghold of the wildcat in Britain south of the Scottish Highlands.

Conservation and reintroduction

At the European, and possibly global level, ensuring the future of the Iberian lynx is no doubt the priority. Were we to lose this, it would be the first species of cat to disappear since the Smilodon about 10,000 years ago.

At a British level, the preservation of our only wild cat is obviously a matter of great importance, but the reintroduction of the Eurasian lynx is also a topic of discussion. The remains of lynx discovered in caves in Yorkshire recently have been dated to 425-600 AD. This date is more recent than expected, and has changed our understanding of the story of the lynx in Britain. Apart from enabling a new interpretation of the literary works above, it also strongly suggests that human activities, rather than environmental changes, were responsible for

From 'Die Gartenlaube'

the disappearance of the lynx in the first place. This places a responsibility on us, in keeping with various international treaties, to consider reintroduction.

One of the chief experts on wild cats in Britain is Dr David Hetherington. He is the manager of the Highland Tiger project, but he has also carried out pioneering work on the reintroduction of Eurasian lynx to Britain, specifically to Scotland. According to his research, there are enough deer and woodlands in Scotland to support a population of about 450, some 400 in the Highlands and 50 in the Southern Uplands. It's felt that the lynx could contribute towards controlling the increasing deer population. Indirectly, however, it could also help the wildcat in its struggle for survival, by catching less nimble feral cats and thus reducing the threat of interbreeding. Lynx have also been shown to take numbers of foxes, which could benefit ground-nesting birds like capercaille.

Lynx or wildcat in Wales?

Here in Wales we don't have as much room as the Highlands of Scotland. Mid Wales, however, is similar in size and landscape to the Southern Uplands. This begs the question, if the lynx can be reintroduced there, could the same be done in mid Wales? According to Dr Hetherington (pers com) there are a number of important differences between the two areas. The Southern Uplands has more woodland, more deer and fewer sheep – a possible target for lynx in the absence of sufficient deer. All these factors mean that mid Wales would not be suitable at the moment. Nevertheless, the woodlands of Wales, as well the deer population, are gradually increasing, so it might be possible to seriously consider reintroducing the lynx before the end of this century.

The wildcat situation, however, is far more promising. According to Steve Piper (pers com) of the Scottish Wildcat Association, once the population in the Scottish Highlands has stabilised, the landscape of mid Wales, apart from those parts of the Brecon Beacons close to south Wales' valley towns, offers ideal territory for the reintroduction of this cat. Unlike the lynx, the wildcat adapts well to mixed habitats, to bare hillside as well as woodland, and helps control the population of rabbits and rodents.

When considering that Wales provided a natural habitat for wild cats for many thousands of years, is it not cause for concern that we no longer have a single species left? Their presence would restore environmental balance, and no doubt lead to economic benefits through tourism, as has happened, for example, with the red kite in recent years. Nevertheless, previous experience in other countries has shown that it is essential to include all sectors of the local community in discussing and accepting any reintroduction project if it is to be successful. With responsible planning and consultation, however, it could be argued that, a mere century and a half after its disappearance, it's time for us to keep a welcome in the hillsides of Wales for the wildcat once again.

***Andrew Currie** is a supporter of SOS Lynx and the Cheetah Conservation Fund, and a member of the Scottish Wildcat Association.*

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Cathod Gwyllt Ewrop

Cath wyllt yr Alban *Felis sylvestris grampia* • *Scottish wildcat*

Mae 'cathod mawr' Affrica, Asia ac America yn chwarae rhan amlwg yn ein bywydau bob dydd, naill ai ar raglenni bywyd gwyllt neu fel eiconau ym myd masnach, gwleidyddiaeth neu chwaraeon. Ond beth am gathod gwyllt Ewrop? Mae ANDREW CURRIE yn dadlau y dylid ymfalchïo hefyd yng nghathod gwyllt ein cyfandir ni, yn ogystal ag ystyried croesawu rhai yn ôl i Gymru.

Mae 37 rhywogaeth o gathod gwyllt ar draws y byd, ac maent yn gynhenid i bob cyfandir ac eithrio Awstralia ac Antarctica. Er hynny, yn anaml iawn y clywir am y 30 rhywogaeth sy'n pwyso llai na 50 kg. Faint ohonom, er enghraifft, sy'n gwybod mai cath Ewropeaidd yw'r rhywogaeth sydd fwyaf mewn perygl yn y byd? Mae gennym dri math gwahanol o gath yn Ewrop. Dyma ddisgrifiad byr o bob un:

Y lyncs Iberaidd

Cath ganolig ei maint (8-16kg) yw'r lyncs Iberaidd *Lynx pardinus*, a'r unig rywogaeth sy'n byw yn gyfan gwbl ar gyfandir Ewrop, ac yn llwyr o fewn tiriogaeth yr Undeb Ewropeaidd. Fel y mae'r enw yn awgrymu, gorynys Iberia yw ei chartref, ac yng nghanol y 19eg ganrif, roedd y lyncs i'w gweld ar draws Portiwgal a Sbaen. Oddi ar hynny, mae gweithgarwch dynol wedi creu problemau enfawr i'r gath hardd hon. Ar wahân i weld cwymp sylweddol yn niferoedd ei phrif ysglyfaeth, sef y gwningen Ewropeaidd, wedi i glefyd Myxomatosis gael ei gyflwyno'n fwriadol i reoli eu poblogaeth, mae'r lyncs Iberaidd yn cael ei hela, ei lladd ar y

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Y lyncs Iberaidd *Lynx pardinus* • *Iberian lynx*

ffyrdd, ac yn colli ei chynefin o achos amaethu dwys a diflaniad coedwigoedd.

Mor ddiweddar ag ugain mlynedd yn ôl fe amcangyfrifwyd bod rhwng 900 a 1200 yn Iberia, sydd yn ffigwr digon isel ynddo'i hun, ond erbyn heddiw dim ond tua 200 sydd ar ôl yn y gwyllt, i gyd yn rhanbarth Andalucia. Golyga hyn, yn anffodus, mai'r lyncs Iberaidd, bellach, yw'r rhywogaeth o gath sydd fwyaf mewn perygl yn y byd. Mewn ymateb i'r argyfwng hwn, mae nifer o fudiadau fel SOS Lynx (www.soslynx.org) ac Ecologistas en Acción - Andalucia, ymhlith eraill, wedi eu sefydlu i wneud eu gorau i wella'r sefyllfa. Mae rhaglen fagu wedi arwain at boblogaeth gaeth o 76, y gobeithir rhyddhau rhai ohonynt i'r gwyllt, ond nid yw'r amgylchiadau sydd wedi arwain at yr argyfwng cyfredol wedi diflannu o bell ffordd, ac mae gan y lyncs Iberaidd daith hir o'i blaen eto.

Y gath wyllt Ewropeaidd

Mae'r gath wyllt, *Felis sylvestris* yn byw ar draws Asia ac Affrica yn ogystal ag Ewrop. Isrywogaeth yw'r gath wyllt Ewropeaidd *F. sylvestris sylvestris* felly, a'r prif wahaniaeth rhyngddi a'r lleill yw mai coedwigoedd a fforestydd yw ei hoff gynefin, ac mae ei nodweddion corfforol yn dangos hynny. Y gath wyllt Ewropeaidd yw'r hynaf o'r isrywogaethau, a chyda streipiau du ar hyd ei chorff a chylchoedd du ar ei chynffon, mae'n edrych fel cath ddomestig gyhyrog (3-8kg). Yn ddigon eironig, cathod domestig yw'r bygythiad mwyaf i ddyfodol y gath wyllt, gan fod ein cathod anwes ni hefyd yn un o isrywogaethau *F. sylvestris*, sy'n golygu bod modd iddynt ryngfridio yn hawdd, a chreu cathod hybrid. Yn hyn o beth, mae'r berthynas rhyngddynt yn debyg i'r berthynas rhwng y blaidd a'r ci domestig.

Hon yw'r unig gath wyllt sy'n dal i oroesi ar ynys Prydain bellach, a dim ond tua 400 ohonynt sydd ar ôl. Yn gyfyngedig i Ucheldir yr Alban erbyn hyn, mae nifer o gyrff fel The Scottish Wildcat Association (www.scottishwildcats.co.uk) a'r prosiect Highland Tiger (www.highlandtiger.com) wedi eu ffurfio i amddiffyn cathod gwyllt 'pur'. Ar ôl esblygu ar wahân ar yr ynys hon am 9000 o flynyddoedd, mae rhai yn dadlau bod y gath wyllt Albanaidd ei hun yn haeddu statws isrywogaeth, sef *F. sylvestris grampia*.

Y lyncs Ewrasiaidd

Y lyncs Ewrasiaidd *Lynx lynx* yw'r fwyaf o'r lyncsod a chath fwyaf Ewrop. Yn pwyso fel arfer rhwng 12 a 32 kg, mae'n sylweddol fwy na'r lyncs Iberaidd. Oherwydd ei maint, y gwahaniaeth pwysicaf rhwng y gath hon a'r cathod llai yw mai ceirw, yn enwedig yr iwrch *Capreolus capreolus*, yw ei phrif ysglyfaeth, yn hytrach na chwningod a chnofilod. Er hyn, nid yw'r lyncs yn un o'r 'cathod mawr'. Yn wir gellid dadlau ei bod yn ddelfrydol ei maint gan ei bod yn ddigon mawr i hela'n ceirw mwyaf, ond yn ddigon bach i beidio â bod yn fygythiad i fodau dynol. Nid oes yr un enghraifft o'r lyncs ym ymosod ar bobl, nid hyd yn oed yn chwedlau traddodiadol Ewrop, ac mae hynny yn golygu bod agweddau tuag at y lyncs yn wahanol, er enghraifft, i agweddau tuag at y blaidd.

Er bod y lyncs yn draddodiadol yn byw ar draws Ewrasia o arfordir yr Iwerydd yn y gorllewin i arfordir

Stefan Reicheneder

Lyncs Ewraisaidd *Lynx lynx* • Eurasian lynx

y Môr Tawel yn y dwyrain, diflannodd bron yn gyfan gwbl o orllewin Ewrop, am resymau tebyg i'r lyncs Iberaidd. Ei chadarnleoedd bellach yw'r tiroedd gogleddol o'r Llychlyn i Siberia, yn ogystal â dwyrain Ewrop, yn enwedig ym mynyddoedd Carpathia. Mae poblogaethau llai mewn gwledydd fel yr Almaen, y Swistir a Ffrainc, ond mae'r rhain i gyd wedi eu hailgyflwyno. Gwyddys fod y lyncs, ar un adeg, yn byw ar draws Prydain ac Iwerddon.

Y cysylltiad Cymreig

O'r tair rhywogaeth uchod, gwyddom fod dwy ohonynt (y gath wyllt a'r lyncs Ewrasiaidd) yn gynhenid i Gymru yn y gorffennol. Ni wyddys pryd yn union y gwelodd Cymru ei lyncs ddiwethaf, ond fe ddaethpwyd o hyd i olion heb eu dyddio mewn dwy ogof yn Sir Ddinbych. Hefyd, yn dilyn ymchwil academaidd diweddar tybir bod y gair llewyn, sy'n ymddangos mewn hwiangerdd yn un o lawysgrifau pwysicaf llenyddiaeth Gymraeg, sef Llyfr Aneirin, yn cyfeirio at y lyncs. Enw'r darn dan sylw, sy'n dyddio o'r 7fed ganrif, yw Pais Dinogad ac fe'i cedwir yn Llyfrgell Ganolog Caerdydd. Dylid nodi, fodd bynnag, mai'r Hen Ogledd, yn hytrach na ffiniau presennol Cymru, yw lleoliad daearyddol y darn.

Mae tynged y gath wyllt yng Nghymru yn haws ei dilyn, gan fod y gath honno yn byw yng Nghymru hyd at ail hanner y 19eg ganrif. Y cofnod diweddaraf sydd gennym yw'r un a saethwyd yn Abermiwl, Sir Drefaldwyn yn 1862, ac mae'n debyg mai canolbarth Cymru oedd cadarnle olaf y gath wyllt ym Mhrydain i'r de o Ucheldir yr Alban.

Cadwraeth ac ailgyflwyno

Ar lefel Ewropeaidd, ac efallai ar lefel fyd-eang, mae'n debyg mai sicrhau dyfodol i'r lyncs Iberaidd yw'r flaenoriaeth o ran cadwraeth. Pe baem yn colli'r gath hon, dyma fyddai'r rhywogaeth gyntaf i ddiflannu ers y Smilodon tua 10,000 o flynyddoedd yn ôl.

Ar lefel Brydeinig, mae'n amlwg bod cadw'n hunig gath wyllt yn fater o bwys mawr, ond mae ailgyflwyno'r lyncs Ewrasiaidd hefyd yn destun

Michael D Smith

Cath wyllt yr Alban *Felis sylvestris grampia* • Scottish wildcat

trafod. Mae olion lyncs a ddarganfuwyd mewn ogofau yn Swydd Efrog yn ddiweddar wedi eu dyddio i 425-600 AD. Mae'r dyddiad hwn yn fwy diweddar na'r disgwyl ac mae wedi newid ein dealltwriaeth o hanes y lyncs ym Mhrydain. Ar wahân i alluogi dehongliad newydd o'r gwaith llenyddol uchod, mae hefyd yn awgrymu'n gryf mai gweithgarwch dynol, yn hytrach na newidiadau amgylcheddol, oedd yn gyfrifiol am ddiflaniad y lyncs yn y lle cyntaf, ac mae hyn yn rhoi dyletswydd arnom, yn unol â nifer o gytundebau rhyngwladol, i ystyried ei hailgyflwyno.

Un o'r prif arbenigwyr ar gathod gwyllt ym Mhrydain yw'r Dr David Hetherington. Ef yw rheolwr prosiect yr Highland Tiger (uchod), ond mae hefyd wedi gwneud gwaith arloesol ar ailgyflwyno'r lyncs Ewrasiaidd i Brydain, yn benodol i'r Alban. Yn ôl ei ymchwil mae digon o geirw a choetiroedd yn yr Alban i gynnal poblogaeth o ryw 450, tua 400 yn yr Ucheldiroedd a 50 yn Uwchdiroedd y De. Teimlir y gallai'r lyncs gyfrannu at reoli'r boblogaeth gynyddol o geirw.

Yma yng Nghymru, nid oes gennym gymaint o le ag sydd yn Ucheldir yr Alban. Mae canolbarth Cymru, fodd bynnag, yn debyg o ran maint a thirwedd i Uwchdiroedd y De. Mae hyn yn codi'r cwestiwn, os gellir ailgyflwyno'r lyncs yno, a ellid gwneud yr un peth yng nghanolbarth Cymru? Yn ôl Dr. Hetherington (cyswllt personol), mae nifer o wahani-aethau pwysig rhwng y ddwy ardal. Mae gan Uwchdiroedd y De fwy o goetiroedd, mwy o geirw, a llai o ddefaid – targed bosib i'r lyncs yn absenoldeb digon o geirw. Mae'r ffactorau hyn i gyd yn golygu na fyddai'r canolbarth yn addas am y tro. Er hynny, mae coetiroedd Cymru, yn ogystal â'r boblogaeth o geirw, yn raddol gynyddu, felly efallai y byddai modd ystyried ailgyflwyno'r lyncs o ddifrif cyn diwedd y ganrif hon.

Mae sefyllfa'r gath wyllt, fodd bynnag, yn fwy addawol o lawer. Yn ôl Steve Piper o'r Scottish Wildcat Association (cyswllt personol), unwaith bod y boblogaeth yn Ucheldir yr Alban wedi'i sefydlogi, byddai tirwedd canolbarth Cymru, ar wahân i'r rhannau hynny o Fannau Brycheiniog sy'n agos at drefi cymoedd y de, yn cynnig tir delfrydol ar gyfer ailgyflwyno'r gath honno. Yn wahanol i'r lyncs, mae'r gath wyllt yn addasu'n dda i gynefinoedd cymysg, y mynyddoedd moel yn ogystal â'r coetiroedd, ac yn helpu rheoli'r boblogaeth o gwningod a chnofilod.

O ystyried y bu Cymru yn gynefin naturiol i gathod gwyllt am filoedd ar filoedd o flynyddoedd, onid achos pryder yw sylweddoli nad oes gennym yr un rhywogaeth ar ôl yng Nghymru bellach? Gyda chynllunio ac ymgynghori cyfrifol, gellid dadlau, tua chanrif a hanner ar ôl gweld yr un ddiwethaf, ei bod yn bryd i ni groesawu'r gath wyllt yn ôl i uwchdiroedd Cymru unwaith eto.

*Mae **Andrew Currie** yn un o gefnogwyr SOS Lynx a'r Cheetah Conservation Fund, ac yn aelod o'r Scottish Wildcat Association.*

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Dick Loxton

Newborough - *plantation or forest?*

For historic and institutional reasons, land-use in this country has become somewhat polarised between closed-canopy woodland and open land, although nature very often does best in a mixture of the two. Through painstaking research into the ground fauna of the dunes and plantation at Newborough on Anglesey, DICK LOXTON has laid bare the true value of open 'forest' dunes where trees have been cleared within the plantation. The result, he argues, is rich in invertebrates, appealing to visitors, and a step towards Newborough becoming a forest rather than a plantation.

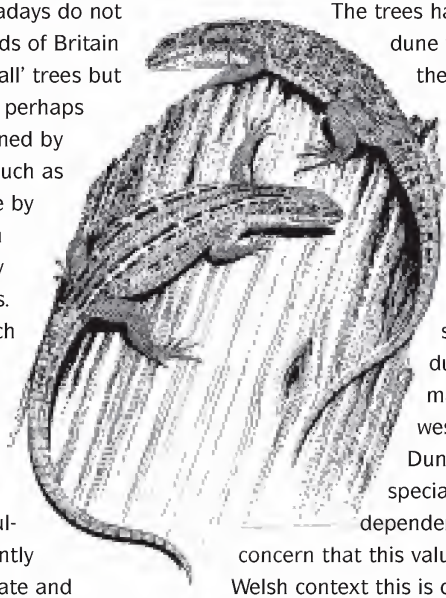
Fig. 1: Dry Forest – note the paucity of ground cover, apart from pine needles.

The plantation at Newborough was established on maritime dunes on the south west corner of Anglesey after the Second World War. A plantation can be taken to mean a monoculture of trees, often of a foreign species planted for commercial harvesting. We can perhaps consider the difference between a forest and a plantation as a useful area for discussion when we come to consider conservation in areas such as this.

Newborough Forest started as essentially a monoculture of Corsican pine *Pinus nigra* with some Monterey pine *Pinus radiata* and a few experimental plots of other species of conifer such as Weymouth pine *Pinus strobus* near the Malltraeth entrance. These species are as native and appropriate as the Eucalyptus plantations of the Indian sub-continent. There are now other species of tree, both conifer and hardwood, scattered through the plantation. Some, such as downy birch, willow Salix spp., alder, sycamore and hawthorn, have probably colonised edge habitats naturally. It seems likely from their position that others such as beech, hazel, horse chestnut, walnut and oak have been

introduced after the first plantings of conifers. Other plants such as daffodils and bluebells have probably been planted by well meaning visitors. There are also alien plants such as Cotoneaster spp. and rum cherry that have spread in the more landward areas of the plantation. This far from complete list indicates that the original near-monoculture is now more varied, though Corsican pine is still by far the most frequent and dominant species.

If Newborough Forest started as a plantation it is evolving, with some help, into a forest in the older sense of the word. Ecologists nowadays do not consider that the ancient woodlands of Britain were likely to have been 'wall-to-wall' trees but would have contained open areas, perhaps caused by blow-down and maintained by grazing. In medieval times forest such as the New Forest in Hampshire were by no means completely covered with trees – there were, as today, many open, grazed meadows and heaths. It is salutary to reflect that so much of our flora and fauna can only flourish outside of treed areas – surely an indication that in the past there must have been extensive areas of open land even before the advent of human agriculture. In recent years it has apparently been policy at Newborough to create and maintain some open areas with controlled grazing by horses and to carry out some clear felling followed by replanting with Corsican pine. As a result, near the Dune Slack Pond, near Pandy Pool and between the main road to the public car park and the open dunes, there are areas without continuous tree cover that are glades within a forest. This article is concerned to evaluate these open areas for the diversity of selected sections of the fauna and to suggest how a balance between trees and open ground fauna might be maintained.



Nearly fifty years!

My first visit to Newborough was in 1963 during the great frost as an undergraduate at Bangor. At this time the pines were still being planted in the seaward areas of the dunes. I studied the beetle fauna of a slack and the surrounding dunes in the middle of the National Nature Reserve (NNR). A slack is a low lying area in dunes characterised by winter flooding. In 1980-82 I carried out an intensive study of the same area. And then in 2007 I embarked on the work outlined here. These personal details are only to indicate a long familiarity with the dunes and forest during which time there have been considerable changes.

The trees have grown to shade out the dune vegetation, and the slacks of the forest have become drier, no longer flooding in winter. On the open dunes of the NNR there have also been considerable changes since the 1960s. With increasing vegetation and incursion of scrub there is now little mobile sand on the more landward dunes. This loss is happening to maritime dunes along the western seaboard of NW Europe. Dunes harbour a set of rare and specialised plants and animals dependent on bare sand, and there is concern that this valuable habitat is being lost. In a Welsh context this is discussed by Rhind et al. (1999) and Howe et al. (2009). My own experience of sampling the ground fauna of the NNR since 1963 indicates a retreat of several typical sand dune beetles to the narrow strip of mobile dune behind the beach. Of course such species will not survive under the pines and we would expect a replacement of the typical fauna of the open dunes with species more characteristic of woodland.

Comparison of plantation and dune fauna, and the importance of bare sand

My aim in 2007 was to pursue a sampling procedure in order to compare the fauna of the slacks and dunes of the NNR with four habitats in the forest. These were forest in damp areas (old slacks), dry forest

on old dunes, open forest in old slacks and open forest on dunes. Open forest areas were where trees had been felled (Fig. 5 - overleaf). The study consisted of 38 sampling sites with five pitfall traps at each site and a total of 31,491 trap nights. All grasshoppers, true bugs, beetles, ants, bees, wasps, spiders, harvesters, millipedes, centipedes and woodlice caught in the traps were identified and counted - a total of 424 species and 16,778 individual invertebrates. This is a substantial coverage of the ground fauna and allows some general conclusions to be made about the relative diversity and abundance of the invertebrate fauna. To make comparisons the pitfall data was adjusted for trapping effort between the different habitats – this is necessary due to occasional disturbance of traps by animals and flooding.

As expected the forest habitats with tree cover held a different suite of species from the open dunes. We can illustrate this by considering the data obtained from sampling the dunes (Fig. 2) and the dry forest (Fig. 1). From the two habitats 212 species of beetle were recorded with only 49 found in both habitats: 119 species were recorded from the Dry Forest and 144 from the Dunes. Similarly for the spiders the figures are a total of 104 species with 29 in common: 64 species in the Dry Forest and 70 on the Dunes. The number of individuals caught also differed between the two habitats. Three and a half times as many beetles and three times as many spiders were caught on the dunes.

However, of more interest is to compare the open forest habitats with the dunes. Here we might expect that after felling (Fig. 5) these areas might have been re-colonised with a fauna similar to that existing before the plantation. Comparison of the old slacks in clear felled forest (Fig. 5) with the dune slacks (Fig. 2.) showed that there were considerable differences in the fauna present. The forest slacks

Fig 2. Foreground across a dune slack on the NNR with dunes in the background

Dick Loxton

Dr R Wilson

Fig 3. Female spider hunting wasp dragging paralysed Wolf Spider into burrow.

contained few of the species associated with wet habitats that are abundant in the dune slacks. Measurement of soil moisture showed that indeed the forest slacks without mature trees were much drier than the slacks in the open dunes. It seems likely that transpiration by the surrounding pines has lowered the water table locally.

But when comparison was made of the forest dunes (Fig. 5) with the open dunes (Fig. 2) a very different picture emerged. Nearly all the beetle and spider species typical of the open dunes were present in large numbers on the forest dunes. But more surprising was the presence and abundance of bees and wasps. These were apparent as one walked through these areas and the sampling gave the same result. Twenty-seven species were caught in the forest dunes and only nine species on the open dunes. Also they were apparently much more abundant: 49 individuals of the large caterpillar hunting wasp *Podalonia hirsuta* (Fig. 4) were caught on the forest dunes as opposed to only a single specimen on the open dunes.

Hunting wasps such as these are solitary, and each female provisions cells underground with prey stung so as to immobilise it rather than kill it. Other species provide for their young with different prey; some with spiders (Fig. 3), some with weevils and some with flies. In addition there are cuckoo wasps,which exploit the hunters by introducing their own egg onto the paralysed prey. The cuckoo's egg hatches before that of the rightful owner, eating the egg or young larva of the host and taking over the paralysed prey.

M Hammett

Fig 4. A large, female,caterpillar hunting wasp, *Podalonia hirsuta*.

Several solitary bees are found on the dunes and these areas of felled dune in the forest. An important species in this group is Colletes cunicularius – a solitary bee that emerges early in the spring to exploit the pollen of creeping willow. The females each provision a burrow with cells containing nectar and pollen on which they lay an egg. This is a rare species found only on some maritime dunes in Britain from south Wales to Cumbria. In the 1980s I remember coming across large aggregations of this bee, numbering thousands, on eroding sand faces in the landward dunes. Bare walls of sand are now rare on the open dunes and the mobile sand of the seaward dunes is too loose to support the burrows of this bee. Nowadays although the bee is still present, the aggregations are small and scattered. A survey of all the forest and the open dunes in the spring of 2009 revealed that the largest aggregations of this rare bee now occur not on the

open dunes but on dunes in clear felled areas in the forest (Fig. 5) (M. Howe pers. com.).

Special value of open forest dunes

Why should these areas in the forest be so attractive to wasps and bees? These insects are lovers of high temperatures and many need bare sand. The clear felled areas of dune are probably warmer than the open dunes by virtue of the shelter from wind provided by the surrounding pines. There is more bare sand in these areas than out on the open dunes. This is probably due to the shading out of ground vegetation by the mature trees (Fig. 2), which, when felled, exposed a thin layer of pine needles to wind and decay, leaving the bare sand, which is now being re-colonised by ground vegetation and replanting. Another interesting insight into this is provided by the common lizard which was caught nine times more frequently in these open forest areas than out on the open dunes. This is a reptile that needs to bask so that its eggs (held within the female's body) can develop quickly. As well as the higher temperature I suspect another factor is the presence of dead wood that provides both basking sites and refuges.

In assessing the conservation importance of different habitats we are fortunate in this country to have a body of knowledge that allows us to be fairly sure of the rarity or otherwise of many species. The table opposite shows the number of species found in the six different habitats that are classified as Notable.

Dick Loxton

Fig 5. An area of the plantation clear felled and replanted a few years ago. In the foreground is an old dune slack with gorse and behind dunes with some bare sand. Behind is dry forest.

Carl Clark

A female *Colletes cunicularius* carrying pollen of Creeping willow

Carl Clark

Female *Osmia aurelenta*. This solitary bee found commonly in dry open places builds its nest inside empty snail shells

R Wilson

Phylan gibbus, a common beetle restricted in Wales to sandy places on the coast

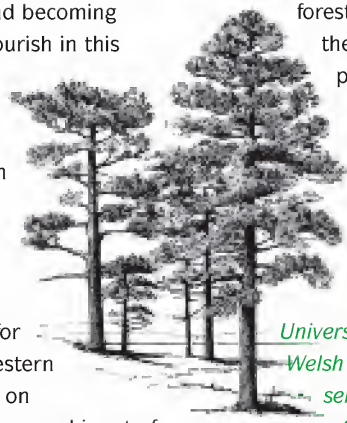
Damp Forest	9
Dry Forest	6
Open Forest Slacks	13
Open Forest Dunes	26
Dune Slacks	16
Dunes	25

On this criterion it would appear that the least valuable habitats were the Forested ones with the Open Forest Dunes holding the greatest number of notable species.

A personal view

I have shown here the exceptional value of the clear felled areas of the forest, in terms of the number and importance of the invertebrate species they hold. In contrast it appears that the dry forest which covers much of the more seaward half of the forest is poor in species. However, let us be clear that I am not advocating extensive felling of the pines. I would advocate that as the present areas of clear felling (which have been re-planted) mature and shade out ground vegetation then another area or areas be selected for clear felling. It seems likely that the

same process will occur; bare sand becoming available for those insects that flourish in this habitat. Such a rolling programme of clear felling and replanting would allow the forest cover to be maintained along with areas where early succession stages can support a wide range of invertebrates. The provision of bare sand habitat is a conservation obligation. We do not know for certain why this is declining in Western Europe. The increased vegetation on maritime dunes may be due to increased input of nitrogen to a habitat poor in this essential element for plant growth. Or it is possible that offshore sand is now less available due to some subtle change in coastal conditions. Whatever the reason we could in a small way provide a refuge for dune animals and plants without decreasing the tree cover any further than at present.



On a purely aesthetic approach I find the occasional area of open ground enhances the appeal of the forest and shows off the structure and colour of the pines at the edge of the glades. This pattern of glade and dense trees possibly mimics more ancient woodland landscapes and properly deserves the description of forest rather than plantation.

Dick Loxton *was a graduate and post-graduate at Bangor in 1960s, and a lecturer in invertebrate biology at Leeds University 1969-89, with a particular interest in Welsh islands, having lived on Bardsey and served as Hon Sec of Bardsey Bird and Field Observatory and on the Council of Bardsey Island Trust.*

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2. Rhind, P.M. and Jones, P.S., (1999) *The floristics and conservation status of sand-dune communities in Wales.* Journal of Coastal Conservation 5: 31-42.

Trychfilod Niwbwrch yn dangos y ffordd?

Mae'n werth ystyried y gwahaniaeth rhwng planhigfa a choedwig wrth drafod cadwraeth ar safle fel fforest Niwbwrch. Planhigfa unffurf o binwydd Corsica oedd hon yn wreiddiol ond mae'n esblygu'n raddol i fod yn goedwig yn ystyr gwreiddiol y gair. Byddai'n coedwigoedd hynafol wedi bod yn gymysgedd o goetir, gweundir a glaswelltir ac mae pori a gwaith cwympo coed yn Niwbrwrch wedi ceisio sicrhau dros y blynyddoedd bod rhywfaint o dir agored yn bresennol ar y safle.

Newidiodd fforest Niwbwrch yn sylweddol ers dechrau'r 1960au wrth i goed dyfu a thagu'r llystyfiant oddi tanodd. Sychodd y pantiau gwlyb fel nad ydynt bellach yn llenwi â dŵr yn y gaeaf. Prin yw'r tywod symudol wrth nesáu at y tir oherwydd tyfiant planhigion a lledaeniad prysgwydd. Mae nifer o'r chwilod twyni tywod a welwyd yn 1960au bellach ond i'w canfod ar y rhimyn cul o dwyni symudol y tu ôl i'r traeth.

Aethpwyd ati yn 2007 i gymharu cynefinoedd y twyni a'r llennyrch agored a grewyd wrth gwympo coed yn y fforest. Canfuwyd nad oedd trychfilod pantiau llaith y twyni wedi llwyddo ailgytrefu'r hen bantiau yn y llennyrch. Roedd y pridd yn llawer sychach yn yr hen bantiau hyn – o bosib oherwydd effaith y coed cyfagos ar y lefel trwythiad.

Ond yr un chwilod a chorynnod a welwyd, mwy na heb, ar y twyni agored a'r twyni o fewn y llennyrch. Ac roedd mwy o wenyn a gwenyn meirch yn y llennrych – efallai am fod y mannau hyn yn fwy cysgodol a chynnes ac am fod y ddaear, gyda chyn lleied o lystyfiant, yn cynnig y tywod agored sy'n hanfodol i rai rhywogaethau.

Creu patrwm parhaus o lennyrch o fewn y fforest a'u gadael i gytrefu'n raddol fyddai'r ffordd orau, efallai, i gynnal yr amrywiaeth ardderchog o infertebratau a sicrhau ein bod yn dal i gynnal cynefin tywod agored sy'n ddyletswydd cadwraethol arnom.

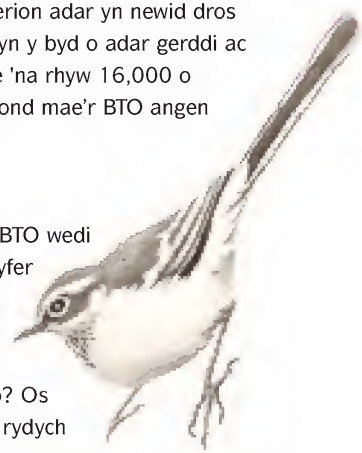
Gwylio adar yr ardd

Jill Pakenham

Cnocell fraith fwyaf • Great spotted woodpecker

Gyda phwysau cynyddol i adeiladu rhagor o dai, mae'n dod yn fwyfwy pwysig i ni ddeall effeithiau trefoli ar ein bywyd gwyllt. Daw llawer o'r ddealltwriaeth hon o'r brosiect 'Gwylio Adar yr Ardd'. Mae'r prosiect hwn yn cwmpasu astudiaeth o adar a bywyd gwyllt arall sy'n bresennol yn ein gerddi ac mae'n para trwy'r flwyddyn. ***AMANDA SKULL*** *sy'n sôn mwy am y gwaith.*

Yn dilyn newidiadau mawr mewn arferion a dulliau ffermio yn y nawdegau, sylwodd y British Trust for Ornithology (BTO) fod adar yn dibynnu mwyfwy ar erddi i'w cynnal. Felly, ym 1995, cafodd cynllun Gwylio Adar yr Ardd (GAA)[1] ei greu. Mae gwirfoddolwyr yn cofnodi'r adar, ynghyd â bywyd gwyllt eraill, sy'n defnyddio'u gerddi bob wythnos ac yn helpu i fonitro sut mae poblogaethau ac arferion adar yn newid dros amser. Yr arolwg hwn yw'r astudiaeth fwyaf yn y byd o adar gerddi ac mae'n para drwy'r flwyddyn. Erbyn hyn, mae 'na rhyw 16,000 o wirfoddolwyr ar draws Prydain ac Iwerddon ond mae'r BTO angen mwy, yn enwedig yn ne Cymru.



Dau lysgennad yng Nghymru

Diolch i Gronfa Dreftadaeth y Loteri, mae'r BTO wedi gallu penodi dau lysgennad gwirfoddol ar gyfer cynllun GAA yn ne Cymru, un o 15 ardal i gael eu targedu. Fel Llysgennad, hoffwn godi proffil y cynllun ac annog mwy o bobl i ymuno ag ef. Hoffech chi fod yn rhan ohono? Os ydych chi'n hoff o wylio adar yn eich gardd, rydych

Jill Pakenham

Nico ar ddraenen ddu • Goldfinch on blackthorn

chi hanner y ffordd yno yn barod! Os ydych chi'n byw yn ne Cymru, mae Mick Bailey a finnau ar gael i siarad â grwpiau a chymdeithasau neu i fynychu digwyddiadau.

Y darlun cenedlaethol

Beth mae'r data sy'n cael ei gasglu gan wylwyr GAA yn ei ddangos? Dyma rai enghreifftiau sy'n berthnasol i Brydain ac Iwerddon.

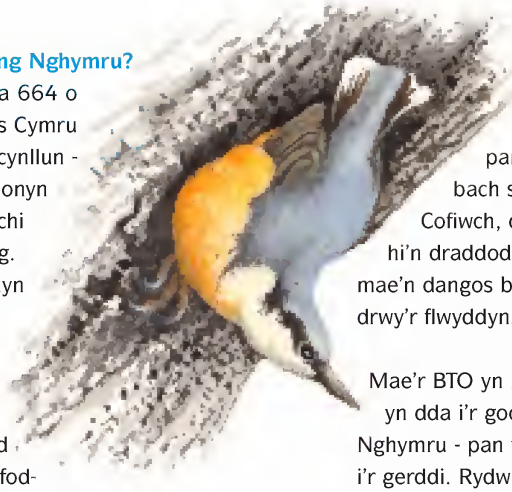
Mae aderyn y to mewn perygl. Mae'r rhywogaeth hon wedi ei chynnwys ar y rhestr goch o adar sy'n peri pryder o safwbynt cadwraethol. Gwylwyr Adar yr

Ardd oedd y cyntaf i dynnu sylw at y dirywiad yn niferoedd adar y to. Mae canlyniadau GAA yn dangos dirywiad rheolaidd ers 1995 ac mae'n dal yn parhau mewn gerddi gwledig a threfol. Mae rhai pobl yn synnu clywed am y gostyngiad yn niferoedd aderyn y to a'r drudwy oherwydd mae'r ddau aderyn yn dal i fod yn gyffredin yn ein gerddi. Oni bai am y cynllun cofnodi, mae'n bosib na fyddai'r ymchwilwyr wedi sylweddoli bod yr adar yma mewn perygl 'chwaith.

Mae data GAA yn dangos sut a phryd mae adar yn manteisio ar ein gerddi. Ydych chi'n gweld nico yn eich gardd? Mae nico yn aderyn tir fferm ond yn y gaeaf maen nhw'n debygol iawn o ddod i mewn i'r ardd i chwilio am fwyd ychwanegol fel hadau nyger a chnewyll blodyn haul. Yn ôl ym 1995, roedd nico yn cael ei gofnodi gan 20% o wylwyr; erbyn 2009, roedd 60% yn ei gofnodi. Dydy hyn ddim yn golygu bod y boblogaeth wedi cynyddu - dim ond bod eu presenoldeb mewn gerddi yn dod yn fwyfwy amlwg.

Drwy gofnodi adar yr ardd dros gyfnod hir, rydyn ni'n gallu gweld unrhyw newidiadau yn syth. Ers 1995 mae patrwm niferoedd y titw tomos las yn eithaf cyson o flwyddyn i flwyddyn. Caiff yr aderyn hwn ei gofnodi gan 95% o wirfoddolwyr ar ddiwedd yr hydref a thrwy fisoedd y gaeaf. Mae'n gysur gwybod ein bod ni'n gallu gweld yn gyflym os yw'r sefyllfa'n newid.

Beth sy'n digwydd yng Nghymru?



Ar hyn o bryd mae 'na 664 o wirfoddolwyr ar draws Cymru yn cymryd rhan yn y cynllun - os ydych chi yn un ohonyn nhw, diolch yn fawr i chi am eich gwaith pwysig. Mae data'r gwylwyr hyn yn dangos bod y titw cynffon hir yn defnyddio'n gerddi'n gynyddol o flwyddyn i flwyddyn. Cofnodwyd y nico gan 50% o wirfoddolwyr yn ystod gaeaf 2008/09; roedd hyn yn gynnydd o 30% ar ffigyrau 2007/08. Tybed a fydd gaeaf 2009/10 hyd yn oed yn fwy llwyddiannus i'r gwylwyr?

Roedd mis Chwefror 2009 yn oer iawn ac oherwydd hyn, gwelwyd y dryw eurben gan fwy o wirfoddolwyr nag arfer (10%). Mae hyn yn annhebygol o ddigwydd eleni oherwydd bod y tywydd oer wedi cael effaith ar y boblogaeth genedlaethol.

Mae'r gnocell fraith fwyaf yn cynyddu ei defnydd o erddi Cymru. Yn 2009 roedd yn cael ei chofnodi gan 45% o wirfoddolwyr, o gymharu â 10% ym 1995. Mae'r cofnodion ar eu hanterth ar ddechrau'r haf pan fydd yr oedolion yn dysgu'r rhai bach sut i ddefnyddio bwydwr cnau mwnci. Cofiwch, dyma'r adeg y flwyddyn pan roedd hi'n draddodiad i beidio â bwydo adar yr ardd - mae'n dangos bod adar yn gwerthfawrogi ein help drwy'r flwyddyn.

Mae'r BTO yn rhagfynegi bydd y gaeaf hwyr eleni yn dda i'r goch dan-aden a'r socan eira yng Nghymru - pan fydd aeron yn brin byddant yn heidio i'r gerddi. Rydw i'n ysgrifennu'r erthygl hon ym mis Ionawr ac rwyf newydd gofnodi socan eira am y tro cyntaf yn ein gardd yn Nhircoed, Abertawe. Tybed a fuodd hi'n aeaf diddorol i'r adar yn eich gardd chi hefyd?

2006 - blwyddyn ddrwg i rai

Roedd salwch *trichomonosis*[2] yn gyffredin ymhlith poblogaeth y llinos werdd yn 2006. Dyma'r tro cyntaf i'r haint hwn gael ei weld yn yr aderyn hwn. Rydw i'n gallu gweld effaith y salwch yn fy ngardd i. Ym mis Gorffennaf 2006, gwelais 25 llinos werdd – ar yr un adeg yn 2009, dim ond 5 a welais ac roedd y sefyllfa'ndebyg mewn llefydd eraill. Yn ystod yr haf

Titw cynffon-hir • Long-tailed tit

Jill Pakenham

John Harding

2006 roedd y llinos werdd yn cael ei gweld mewn 80% o erddi GAA yng Nghymru; erbyn 2009 roedd y gyfradd cofnodi wedi gostwng 15%. Cofiwch bod glanweithdra yn bwysig iawn, yn enwedig pan mae 'na adar sâl o gwmpas. Yn ffodus, roedd sawl un o wirfoddolwyr GAA hefyd yn cymryd rhan yn y 'Garden Bird Health Initiative (GBHi)'. Mae GBHi yn edrych ar y risg o drosglwyddo'r afiechyd rhwng adar sy'n defnyddio mannau bwydo adar mewn gerddi. Bydd nifer o adroddiadau gwyddonol yn cael eu cyhoeddi cyn bo hir. Bydd gwylwyr adar yr ardd yn gallu dilyn tynged y llinos werdd dros y blynyddoedd nesaf.

Adar - y deg uchaf

Pa adar ydych chi'n eu gweld yn aml yn eich gardd? Mae gwirfoddolwyr GAA yn byw'n bennaf yng Ngheredigion, Abertawe, Sir Benfro, Sir Fynwy a Gwynedd (37-42). Titw tomos las yw'r aderyn mwyaf cyffredin yn y siroedd hyn ar wahân i Geredigion ble mae'r ji-binc yn fwy cyffredin. Abertawe yw'r unig sir allan o'r pump sy'n rhestru jac-y-do ymhlith y deg uchaf. Yn 2009 (mis Ebrill i fis Mehefin), y fwyalchen a hawliai'r safle blaenllaw yng Nghymru. Tybed a wnaiff y rhywogaeth hon lwyddo cadw ei choron eleni?

Beth rydych chi'n disgwyl ei weld?

Mae canlyniadau GAA yn dangos eich bod yn fwy tebygol o weld yr adar canlynol rhwng mis Ebrill a mis Mehefin nag ar unrhyw adeg arall yn ystod y flwyddyn (mewn trefn debygol): mwyalchen, aderyn y to, turtur dorchog, llinos werdd (gan groesi bysedd y bydd y rhifau'n codi eleni), drudwy, ysguthan, bronfraith, nico, bran dyddyn, jac-y-do, colomen y graig a'r ydfran. Faint o'r rhain y byddwch chi'n eu gweld tybed?

Gwnewch i'ch gardd chi gyfri!

Mae gan bob sir yng Nghymru wirfoddolwyr sy'n cofnodi adar yr ardd ond mae 'na wahaniaeth mawr rhwng y siroedd. Powys yw'r sir sydd â'r nifer uchaf o wirfoddolwyr (65) ond dim ond tri gwirfoddolwr sydd gennym yn ardal Merthyr Tudful ac 11 yng Nghastell-nedd Port Talbot. I wneud y data'n fwy dibynadwy, mae'n bwysig bod cynrychiolaeth dda o bob math o ardd ac ardal. A fedrwch chi helpu i lenwi'r bylchau yng Nghymru?

Mae'n hawdd cymryd rhan a gallwch chi ffitio'r cynllun i siwtio'ch ffordd chi o fyw. Er enghraifft, efallai eich bod chi'n edrych ar eich gardd wrth gael paned neu wrth olchi'r llestri - beth am nodi'r adar rydych chi'n eu gweld bryd hynny? Bydd gwylio'r adar am ddeng munud bob wythnos, neu cyhyd ag y gallwch (mae'n bwysig bod yn gyson o wythnos i wythnos), yn helpu'n dealltwriaeth ni yn fawr iawn.

Mae Gwylio Adar yr Ardd yn unigryw ymhlith prosiectau'r BTO oherwydd ei fod yn ariannu ei hun,

John Harding

Aderyn y to • House sparrow

trwy haelioni'r rhai sy'n cymryd rhan yn y gwaith. Yn gyfnewid am dāl aelodaeth o £15 bob blwyddyn, byddwch yn derbyn ffurflenni arolwg, mynediad i'r system ar-lein a chylchgrawn lliw bob tri mis. Drwy ymuno byddwch hefyd yn derbyn llyfr am adar neu am arddio ar gyfer adar yn rhad ac am ddim (llyfrau ar gael yn Saesneg yn unig).

*Mae **Amanda Skull** un o ddau Lysgennad BTO ar gyfer prosiect Gwylio Adar yr Ardd yn ne Cymru.*

Os hoffech gael rhagor o wybodaeth am gynllun Gwylio Adar yr Ardd neu os ydych am drefnu i mi neu Mick ddod i roi sgwrs mae croeso i chi gysylltu â mi drwy'r ffyrdd canlynol:
*Ffôn: **01792 891013** neu **07952 758293***
*Ebost: **gbw@hiafi.co.uk***
www.bto.org/gbw

Cyfeiriadau

1. Mae Ymddiriedolaeth Ornitholeg Prydain (British Trust for Ornithology) wedi bodoli ers 1933 fel ymddiriedolaeth ymchwil wyddonol annibynnol i ymchwilio i boblogaethau, symudiadau ac ecoleg adar gwyllt yn Ynysoedd Prydain. Mae BTO yn bartneriaeth rhwng gwylwyr adar gwirfoddol a gwyddonwyr. Mae'n gweithio gyda sefydliadau eraill ac yn rhannu data â hwy.

2. Mae *trichomonosis* yn achosi namau yng nghefn y gwddf a'r llwnc. Mae adar wedi'u heintio yn ymddangos yn swrth, yn aml gyda phlu blêr, a gallant lafoerio ac arddangos trafferth wrth lyncu. Credir bod yr haint yn cael ei ledaenu trwy fwyd neu ddŵr yfed sydd wedi cael ei heintio gan boer neu (o bosib) gan faw adar eraill sydd eisoes wedi'u heintio.

John Harding

Garden Birdwatch - join the team!

The BTO launched the 'Garden Birdwatch' scheme in 1995, having realised that birds were making increasing use of gardens following the agricultural intensification of the nineties. Nowadays, with increasing development pressure, it is becoming even more important to understand the effects of urbanisation on our wildlife.

The scheme allows volunteers across Britain to record and share information about birds and other wildlife that use our gardens throughout the year. The data gathered demonstrates trends in bird numbers and behaviours and allows changes to be observed and analysed relatively quickly. Records can often indicate weather-related trends – the BTO predicted, for example, that the late winter and scarcity of berries this year would attract high numbers of fieldfares and redwings to our gardens. Trends may also reflect other factors such as disease; this has been apparent in the case of the greenfinch which has declined markedly in gardens since 2006 when the incidence of the trichmonosis disease was high amongst the population. The Garden Birdwatch scheme was also instrumental in raising the alarm about the decline of the house sparrow in urban and rural gardens.

There are currently 664 volunteer recorders in Wales and the BTO aims to increase this number, particularly in South Wales. Recording is easy and can be matched to volunteers' lifestyle – ten minutes regular recording effort whilst drinking a mid morning cuppa or doing the washing up will help provide invaluable data for this important scheme.

A full translation of this article is available.

© Wildstock

A hare's breath

An encounter with a live hare is an increasingly rare experience, and one that is likely to leave a big impression in a country with few large mammals. Seeing one that has been killed is a different matter altogether, and raises a host of questions, as LINDA AULD discovers.

There was a slight orange glimmer as the sun set and I walked towards Mynydd Bach. I passed Treweithan house where Gwyn and Daisy Williams lived in the fifties. Gwyn's Summer Diary, 1951 describes how they wrote, painted, cut peat for fuel and hunted rabbits, mallard or snipe for food, long before today's double garages, double glazing and double cheeseburgers.

I continued up past the slate monument with its sad inscription:

In memory of Flight Lieutenant Ewan Murdoch and Flying officer Jeremy Ogg of No 74 Fighter Squadron RAF who died here when their Phantom aircraft crashed on the 26th August 1987.

In the distance I could just see the tips of the nearest wind farm turbines behind the hills, making the landscape look like the futuristic land of the teletubbies. My eyes were drawn to a slight movement at the top of the ridge. There was a man with a loose dog. He was wearing brown and green and his brindle lurcher was only visible when it darted excitedly back and forth. The man was taking the shortest and fastest route down the hill and was carrying something in one hand. I wondered if it was a bag. The lurcher saw me and my two dogs and bounded over in a few lanky strides. Monty, my German Shepherd, gave a low warning growl and the lurcher stopped. It was panting and had small glinting eyes. The man shouted and after an ingratiating fawning gesture it bounced back to him. They were about 50 metres away now and heading across our path and back down towards the road. What was he carrying? It was too big for a rabbit and his hand was held up as the object hung down to the ground. I realised he was holding the hind feet of something quite big and dead. I'd forgotten to bring my binoculars. Surely it wasn't a hare?

Earlier that afternoon I'd seen a repeat of a Bill Oddie programme showing a beautiful close up of a hare in East Anglia. The hanging brown body was the size of a small dog, and I could see the long, dark-tipped ears dangling and almost touching the

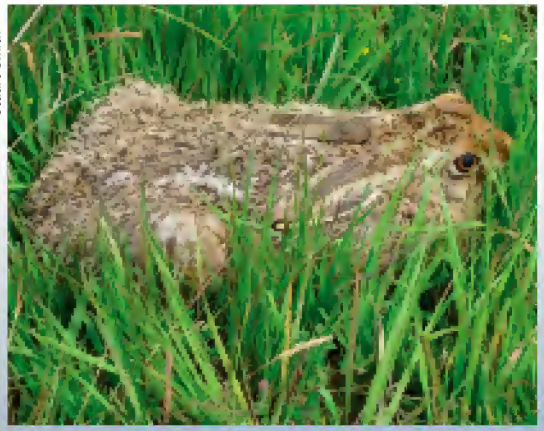
H Zell, GNU Free Documentation License

ground. The man seemed conscious of me staring at him and sped off furtively. I guessed if I confronted him he would argue he'd just been walking his dog and I imagined him in court saying 'The hare jumped into the dog's mouth, your honour!' He must be local and heading home with the hare for the pot. He had no gun so he must have used the dog to hunt it.

Struggle for survival

Hares don't bolt down burrows to hide – they live in the open and sleep in scrapes in the ground called 'forms', and their only defence is either to remain unseen or to run. Only a fast predator, like a lurcher, or maybe a big raptor from above, could catch them. They stay within their own territory, so when they run and reach the edge they tend to run back round in an arc. They are more active after dusk and at night and usually hide in bushes during the day. When pursued they behave similarly to foxes and use flocks of sheep, cows or manure to spoil the scent. They also try jinking (leaping sideways at right angles), then clapping (flattening the body to the ground) and then doubling back on their tracks and jinking again. Hares are fast, but hounds have more stamina and hunts vary from 20 minutes to two and a half hours or more.

The Hunting Act 2004 is controversial and rather confusing and seems to focus on suffering rather than killing issues. Hare coursing is illegal, but hares can still be privately coursed with two greyhounds if the hunters shoot the hare afterwards. Hares can also still be hunted with two dogs and a gun as with



Stuart Smith

foxhunting, and hares that are wounded by guns may be hunted with dogs. I wondered had this man killed it for food or sport and was one worse than the other? When Gwyn Williams had hunted up here in the fifties he'd done it for food and this would not have been questioned in the days of post-war rationing. Could this behaviour be justified or tolerated today when there are hardly any wildlife or wild places left? Did he have the right to carry on the ancient ways of hunter gatherers and hunt for his Sunday lunch in 2010? Or should he have to buy his meat from the butchers or supermarket like everyone else? Should the people that live here be able to do what they like and then again should these places be open to everyone to do what they like?

The European Commission decided not to add the hare to the protected species list, even though in recent decades the hare population has declined, mainly due to modern intensive farming methods, and the brown hare is included in the list of vulnerable and rapidly declining species for which a UK Biodiversity Action Plan has been written. Apart from this, hares have a little protection under the Wild Mammals (Protection) Act 1996 and various Game Acts, and the Hares Preservation Act 1892 says it is an offence to sell hares between March and June. Along with other game species, it is also illegal to kill hares on Christmas Day or a Sunday – presumably this law is designed to save the souls of the hunters rather than the hunted! Because their distribution is uneven (they are more common in the east of England and less so in Wales and the West Country) and hare hunting is a recreational sport, The Burns Report says a ban on hunting would have little effect on hare numbers. So in the grand scheme of things does it matter if a few people kill a few hares? (Does it make any difference to the species as a whole?). Whatever the numbers and moral arguments, the suffering caused by hunting is indisputable. To the individual hare the arguments don't matter as either way it is dead.

Die Gartenlaube 1887

Duelling hares

Mystical beasts

The common brown hare *Lepus europaeus* (European hare) of the Lepridae family (which includes rabbits) was first brought to Britain by the Romans for hunting. Even earlier, the Egyptians had a hieroglyph of the hare representing the verb 'to be'. Hares have become creatures of folklore, legend and mythology, like the albatross. Perhaps it is because they are rarely seen that they are

Linda Auld

Mynydd Bach

St. Melangell

considered more precious than rabbits. They are one of the symbols of spring and in March they can be seen 'boxing' when the females are pursued by persistent males and stand up on their hindlegs and box with their forelegs. *Aesop's Fables* includes the well-known 'The Hare and the Tortoise' story and there is the hare in the Mad Hatter's tea party in *Alice in Wonderland*. If this had been the Melangell valley in Pennant, Llangynog, Powys, this particular hare would have been safe. In the Melangell valley hares are not hunted. This is in honour of Saint Melangell, an Irish Princess who ended up in Pennant in AD 604 where she protected a hare under the hem of her dress when a prince and his hounds were hunting it. Moved by her compassion and courage (or perhaps because he took a fancy to her), Prince Brychwel Ysgithrog of Pengwern Powys gave her some land and a place of sanctuary and she remains the patron saint of hares.

Still thinking about the dead hare, I continued across the moor, with the poet's monument on my right and Llyn Eiddwen on my left. My arms were nearly pulled out of their sockets as my two dogs shot to the ends of their flexi-leads. I gripped the handles, stopping them with a jerk. I hadn't seen the hare crouched within a few yards, disguised as a hummock of dead grass. It had waited until we were almost upon it before it bolted and I saw its powerful hindlegs propelling it away until it disappeared into the heather. My terrier-cross Bonnie yapped hysterically and Monty nearly pulled me over as they tried to follow, but once it was out of sight I was able to carry on home, happy to know that there was at least one live hare on the moor.

Linda Auld *is a freelance project manager for academic book and journal publishers and also organises the West Coast Writing Group in Ceredigion -* ***westcoastwritinggroup@lauldbooks.plus.com***

Albrect Dürer

Hawl i fyw?

Crwydro'n gysglyd drwy bentref a choedwig dywyll ym Meirionnydd. Côr y wig o'n cwmpas yn cyhoeddi diwrnod arall o wanwyn; gwrando am sŵn bronfraith, sgwrs brysur llwyd y gwrych a chlebar uchel y dryw a gweld cyffylog yn gysgod trwm yn erbyn yr awyr lwyd wrth iddi wawrio'n araf.

Gyda'r nos, ac wrth i'r gwibed ddechrau dawnsio, gosod pob math o offer yn ei le a gadael y llusern yn olau dros nos i hudo'r gwyfynod. Dychwelyd yn gynnar y bore wedyn i weld pa greaduriaid a ddaliwyd, a rhyfeddu at y patrymau cain, y lliwiau hardd a'r enwau bendigedig.

Cerdded drwy dwyni tywod i chwilio am blanhigion deniadol i'w henwi a'u disgrifio; dysgu pam cafodd y tagaradr ei enw ac am flas licris ei wreiddiau. Chwilio mewn pyllau llanw ar draeth unig a chanfod cyfoeth o fywyd môr - corgimychiaid a chregyn, ser môr yn llechu, pysgod bach yn sblishian ac yn gwibio drwy'r dŵr i guddio mewn cilfachau ac anemonïau mawr lliwgar a meddal yn glynu dan greigiau.

Dim ond blas yw hyn o'r gweithgareddau a drefnwyd gan un naturiaethwr brwd yn ardal Ardudwy er mwyn ysbrydoli plant a phobl o bob oedran i gymryd diddordeb yn eu hamgylchedd.

All photos: Emyr Evans

The osprey in Wales

Since ospreys were first recorded breeding successfully in Wales, in 2004, there have been numerous sightings, but only one consistently successful nest at Glaslyn. There are high hopes at a Montgomeryshire Wildlife Trust Reserve that 2010 will be the year when ospreys breed at the reserve, as ***BRAYTON HOLT*** *explains.*

The hawk of salt water, gwalch y pysgod in Welsh, the osprey *Pandion haliaetus* occurs across Europe, Asia as far as Japan, throughout North America and in the southern hemisphere in Australia, Indonesia and New Guinea. It is thought to be resident in Cuba but migratory elsewhere. It is a monotypic species, in a genus of its own with four distinctive races.

So why has it taken so long to colonise Wales? There is no written evidence of breeding here in the past, though there are historical and cultural references which seem to suggest that it may have done. The Swansea Coat of Arms bears an osprey on its crest, the recently formed rugby club is The Ospreys. Although I have been unable to discover it, there must be some substance in the portrayal of the bird in this way.

For many years ospreys have been recorded in Wales in Spring flying north to their breeding grounds, and in Autumn south to their wintering

region of West Africa. Passing through the Severn and Dyfi valleys, taking fish and sometimes carrying nest materials, it seemed only a matter of time before a pair would decide to stay.

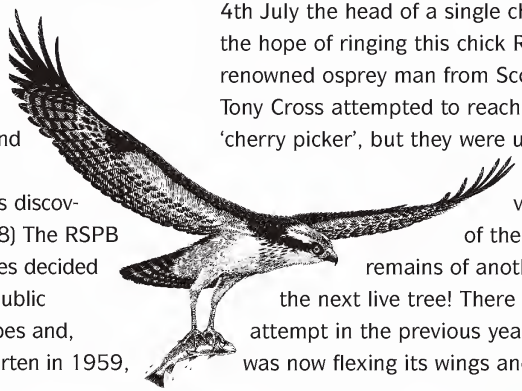
The osprey returned to Strathspey in Scotland in the 1950s, since when it has become a great asset, particularly to the tourist industry. Despite persecution from egg collectors and others there are now more than two hundred pairs, and it is held in great esteem. Could Wales benefit in a similar way, as it has done with the red kite?

Ospreys nest

In the late 1990s birds were seen throughout the summer months, in a variety of likely breeding places. Were they nesting or just prospecting? In an effort to attract their attention, some artificial nests were erected where there had been regular sightings. These have proved successful in attracting ospreys at Rutland Water and are 'backyard' features in America where ospreys seem happy to live alongside people.

In 2003 one of these platforms was erected beside the Severn on the Montgomeryshire Wildlife Trust Reserve of Dolydd Hafren, where there had been many sightings of birds fishing and carrying sticks, but only a Canada goose, crows and a kestrel showed passing interest. However, the following year a fisherman watched an osprey catch a fish then fly to a distant tree, a dead Douglas fir in which a nest was visible. He reported this to the Wildlife Trust and, as the site was on private farmland, with the help of the farmer it was kept under wraps, and a group of volunteers stood guard.

Amazingly, at the same time, a second nest was discovered near Glaslyn in north-west Wales. (An account of this discovery appeared in *Natur Cymru* 12:4-8) The RSPB and the Countryside Council for Wales decided to publicise this site and erected a public viewpoint with cameras and telescopes and, following the example set at Loch Garten in 1959, invited in the general public. The male of this pair was found to have been ringed at Rutland in 1998.



The two pairs, however, enjoyed mixed fortunes. During a storm the Glaslyn nest was blown out of the tree. The two young did not survive. The Severn valley pair were now bringing fish to the nest and on 4th July the head of a single chick could be seen. In the hope of ringing this chick Roy Dennis, the renowned osprey man from Scotland, and ringer Tony Cross attempted to reach the nest from a hired 'cherry picker', but they were unable to do so because of thick vegetation at the base of the tree. Remarkably the remains of another nest were found in the next live tree! There must have been an attempt in the previous year. The growing chick was now flexing its wings and left the nest on 8th

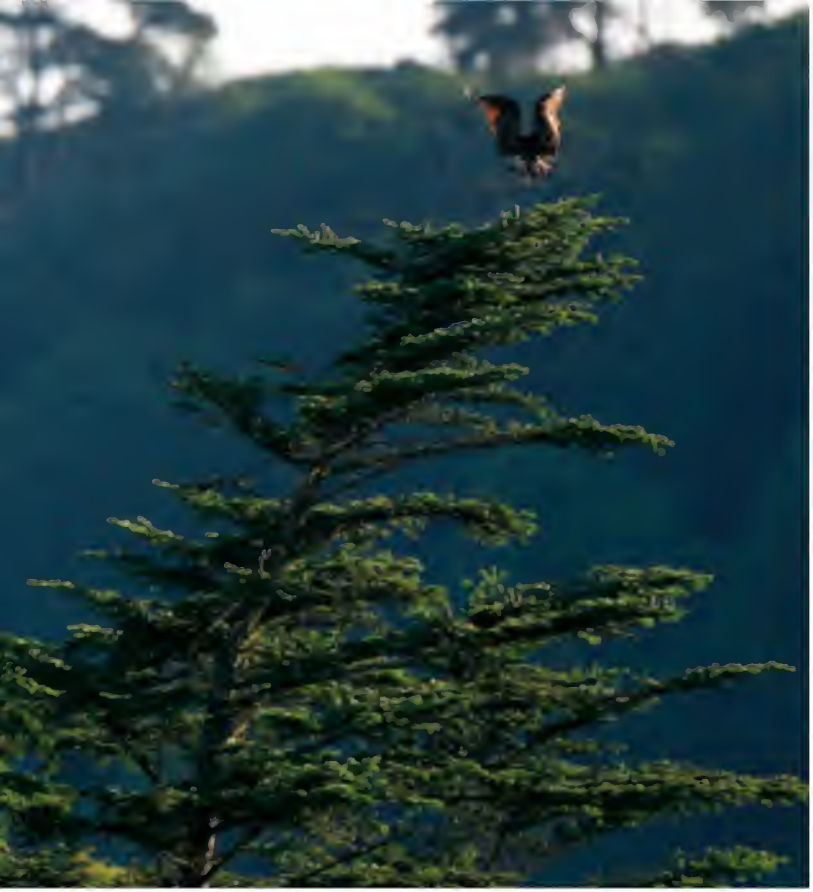
August 2004 – the first recorded fledging of an osprey chick in Wales. The parent birds were identified by the rings they carried. The male was ringed at Rutland Water in 1997 and the female ringed in Perthshire in 2000. Sadly neither bird returned the following year.

The Glaslyn pair have bred successfully every year since then (2005-09). During this period the average date for the arrival of the male was 26th March with the female two days later. The first egg was laid on 9th April and the clutch of usually three eggs was complete on the 15th April. Hatching was from 16-19th May and fledging between 4th and 11th July. In total 12 chicks fledged.

A new location

Encouraged by the success at these two sites and ever increasing sightings of ospreys on the Dyfi Estuary, Jim Marshall, warden of the Montgomeryshire Wildlife Trust's Cors Dyfi Reserve, organised the construction of a nest platform on the salt marsh. In the first summer ospreys spent the whole of the season in the area but did not take to the proffered podium. There were high expectations for the following year. On 5th May 2008 we watched a male osprey catch a fish and carry it to the platform to eat. Hopes were even higher when a female arrived on the 24th June, but it was too late in the season. There is a critical date for the laying of the first egg and this was past.

In 2009, an elevated viewing hide complete with telescopes was erected under the supervision of Emyr Evans, who has successfully managed the Glaslyn project for four years. The hide has panoramic views over the surrounding reserve and saltmarsh. Cameras and a microphone were mounted on a dead tree which had been rescued from the river and placed close to the nest platform. A visitor centre equipped with plasma television screens and displays of osprey pictures was



constructed and a car park for the expected visitors was renovated. On cue, on 10th April a female osprey arrived followed by a male a few days later. The Dyfi Osprey Project was launched on 25th April.

All summer long the ospreys hung about, fishing, adding sticks to the nest and mating after a fashion. Occasionally one would disappear for a few days, and once there were three birds on the nest! They didn't seem sure who was who, the female often taking the male role and trying to initiate mating. The centre received more than 20,000 visitors, many attracted by the banners at the car park entrance. Not all were lucky, but many saw their first osprey. Sadly the birds did not breed, probably because they were too young and not sure of themselves. They were not seen again after the end of August. Our fingers are crossed that 2010 will be the year of the osprey at Cors Dyfi.

***Brayton Holt** has been County Bird Recorder for Montgomeryshire since 1989 and BTO Rep for 12 years (now retired). Formerly RSPB Rep for the High Peak of Derbyshire and Founder and Chairman of the Montgomeryshire Wildlife Trust Bird Group, he is co-author of* The Birds of Montgomeryshire *(2008) (see* Natur Cymru *30 p46), and has a lifelong interest in birds.*

Gobaith i'r gwalch ar y Ddyfi?

Tybed a fu gwalch y pysgod yn nythu yng Nghymru yn y gorffennol? Mae arfbais dinas Abertawe yn awgrymu hynny ond does 'r'un darn o dystiolaeth ysgrifenedig ar gael i brofi hyn. Ond mae'r gweilch yma'n magu bellach, ar ôl blynyddoedd o gael eu gweld yn pasio drwodd bob gwanwyn a hydref. Ac efallai'n wir y gallai Cymru elwa'n economaidd o hyn, fel y mae'r Alban wedi gwneud.

Ers darganfyddiad pâr yn Sir Drefaldwyn ac yn nyffryn Glaslyn nôl yn 2004 magwyd cywion yn llwyddiannus bob blwyddyn mewn rhyw ran o Gymru. Sir Drefaldwyn gafodd y fraint o weld y cyw cyntaf yn hedfan ond pâr Glaslyn sydd wedi llwyddo magu'n flynyddol ers hynny .

Rhwng llwyddiant gweilch y Glaslyn a nifer cynyddol yr arsywladau ar aber y Ddyfi, fe benderfynwyd yn 2007 ei bod hi'n werth rhoi cynnig ar godi llwyfan nythu ar warchodfa Cors Dyfi. Yn 2009 roedd cryn weithgaredd o gylch y llwyfan ac fe ddenodd y safle, gyda'i guddfan arbennig, dros 20.000 o ymwelwyr. Er i sawl un weld gwalch, aflwyddiannus fu'r ymgais i fagu cywion ond mae gobeithion yn uchel ar gyfer 2010.

Exotic Marine Fish -
Are recent records a sign of rising sea temperatures around Wales?

In the past few years fishermen and members of the general public have been reporting unusual catches and strandings of marine fish from around our shores. These specimens are brought to the National Museum for identification where they are incorporated into the national collections and are now on display. In order to exhibit their natural colours casts are made and painted, then exhibited alongside the actual fish that have been preserved in fluid.

NMW

Tripletail - preparing the mould

NMW

Finished model of tripletail

In 2006, an Atlantic tripletail, *Lobotes surinamensis*, was caught in the Bristol Channel near Peterstone, east of Cardiff, in a fisherman's net. This 60cm specimen was not recognised and was brought to the Museum for identification. Tripletails are normally found in tropical and subtropical waters and this individual represented the first record from UK waters. These fish are known to like muddy estuaries, which may be part of the reason it was found in the Bristol Channel. They are semi-migratory, often associating themselves with floating debris, and it is possible it travelled here via the warm waters of the Gulf Stream.

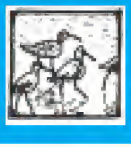
Another intriguing record was of a juvenile Jack, caught off the entrance to Milford Haven in August 2007. Identification of juvenile Jacks is difficult and the specimen required x-rays to confirm it as the first Welsh record of an Almaco Jack, *Seriola rivoliana*. This species is usually found in the warm waters of the Caribbean but between July and September 2007 a total of six were found in the south and west of the UK, doubling the number of records since the first in 1984.

Then in 2008 a 2.2m long swordfish *Xiphias gladius* was found dead on a beach near Barry in south Wales. Although not a new record, this oceanic species is seldom caught in Welsh waters.

These records of warm water fish appear to be further evidence of rising sea temperatures. Such sightings have coincided with increasing numbers of turtles, especially leatherbacks in the Irish Sea. However, the occurrence of exotic marine species is not new and the Gulf Stream has frequently brought warmer water animals to our shores. Most recently among the invertebrates two species of shipworm have been found in timbers washed up on the Llŷn. *Bankia gouldi* and *Uperotus lieberkindii* are both warm temperate or tropical in origin and have not been recorded before from the UK.

The establishment of such exotic species in our fauna, or at least an increase in their frequency, would reflect real range extensions. Recording of marine species is vital to our recognition of such events and the role of fishermen and the public cannot be underestimated. (For more about recording, see *The Trouble with Fish*, *Natur Cymru* 32, p22). The National Museum welcomes this participation and looks forward to the arrival of the next mystery creature at its enquiry desk.

Graham Oliver *is Head of Biodiversity & Systematic Biology at the National Museum Wales.*
Julian Carter *is the Zoological Conservation Officer, National Museum Wales.*



Marine matters

The UN has declared 2010 as the International Year of Biodiversity (IYB). The term 'biodiversity' may have been overused and sometimes interpreted more widely than the basic ecological concept. Nevertheless, it is a useful tag to highlight the great value of ecosystem services provided by organisms in natural environments, not least those in the seas around us. Monetary values can easily be ascribed to herrings or sprats at various points from the deck of the fishing boat to the table. It gets more complicated when the fish are sought by recreational anglers and economic multipliers on their spend are invoked. If those same herrings or sprats are the prey of dolphins or puffins then value can be through eco-tourism as well as for human consumption. Applying such economic models to the natural environment can lead to surprising results. It came as a revelation after the last Foot and Mouth outbreak that losses to tourism were greater than to farming. It is hoped that new approaches to marine management fostered by the Marine & Coastal Access Act (2009) will allow ecosystem services to be taken more into account when balancing competing demands for the use of the sea and its biological resources.

One prime example of competing demands for resource allocation is between intertidal shellfisheries and the conservation of populations of wading birds. Complex energetic models have been evolved to estimate the quantities of shellfish needed to maintain the populations of oystercatchers. These have been applied to several of the major estuaries around Wales and cockle stocks monitored with a view to seeing whether it would be possible to manage levels of exploitation after allocating a major proportion to the birds.

Where, as in the north-eastern Menai Straits, mussels form a significant proportion of the bird food, there is a different twist to the interaction. It appears that the activity of the mussel cultivation industry actually increases the resource available to the oystercatchers, so allowing a larger number of birds to over-winter here. Mussels, being abundant filter feeders, also provide another ecosystem service by clearing particulate matter from the water, allowing both greater underwater visibility and hence light penetration. In turn greater light penetration allows both photosynthesis by macroalgae to greater depths and reduction of pathogenic organisms susceptible to ultra-violet light. In the case of horse-mussels (*Modiolus*) and the natural beds of common blue mussel (*Mytilus*) there are further ramifications in the provision of ecosystem services through their tendency to form biogenic reefs. These provide biodiversity hotspots and, by stabilising the seabed, provide habitats for the young stages of species which are of direct value to fisheries. Biogenic reefs ought to be high on the agenda to be given more protection under the new Act. In the case of *Modiolus* the reefs are very susceptible to scallop dredging and seem not to recover after sustaining damage.

As might be expected, mussels are reported to be the dominant colonists on the many windfarm towers that have been planted off the north Wales coast. As nature deplores a vacuum it will be interesting to see what becomes of these new mussel communities. Another angle is the suggestion that, particularly under Round 3 of the allocation of sites, the numerous windfarm towers across the eastern Irish Sea may act as stepping stones. This is because the larvae of some sessile organisms are not long enough lived to colonise beyond wide sediment areas. An extreme example of natural restriction to colonisation was found at Rockall by Professor Denis Crisp, then Director of the Menai Bridge laboratory. In spite of the secrecy surrounding the naval expedition in 1955 to formally claim the islet, Denis somehow arranged for biological samples to be collected by the Marines who were helicoptered onto it along with James Fisher. A significant finding was that the periwinkles there only belonged to those species without a pelagic larval phase. Re-colonisation by free-swimming larvae would be impossible at such a small remote islet. Perhaps this is more an illustration of the Services aiding ecology than ecosystem services, but on our coasts marine gastropods are part of the diversity enjoyed by rock poolers and play significant roles in the functioning of ecosystems.

Ivor Rees

Green **Bookshelf** • **Silff Lyfrau** Amgylcheddol

Fumitories of Britain and Ireland
R J Murphy
BSBI Handbook No 12 London 2009
£12.50

There is much delight to be had from the flowers which spring up from bare ground, which we used to call arable weeds, but which now go by the portentous name 'archaeophytes'. Amongst the choicest of these are the fumitories, with their delicate, attractive foliage and striking heads of two-tone flowers. I am also fascinated by the stories they have to tell about the capacity of nature to seize opportunities provided by other species, and their adaptability to new environments. Two of our ten fumitories, along with a gaggle of subspecies and varieties, are endemics to these shores.

Although some BSBI Handbooks have had a tendency to outgrow their original purpose, the series has an agreeable focus on the identification of critical groups of plants. Fumitories are a difficult group, so we can expect the handbook to guide us through the difficulties associated with identifying the various species, and, if we so wish, subspecies and varieties. This is the task, and this is exactly what we get from this excellent little volume.

After an invaluable introduction to the genus (and family *Fumariaceae*), we are taken through the important characters to look for, followed by a key to the species, and then the meat of the book, the species accounts. These are greatly assisted by an astonishing wealth of illustrative material, including maps, photographs in habitat context, line drawings and figures which display the critical features. All the salient facts are presented in the accompanying text.

If you think you might like to get to grips with fumitories and see what species you can find when you are out in the field, then this handbook should do the job splendidly at a reasonable price. (I haven't yet taken it into the field to put it through its paces yet, I must admit, winter being a thin time for fumitories). The glass, however, is never full, and I could have wished for more context, more history, and something about the farming systems which we need to encourage if we are to allow a place for all our fumitories in the farmed landscape.

Grasses of the British Isles
Tom Cope and Alan Gray, BSBI Handbook No. 13 London 2009
£20 Paperback, £25 Hardback

Serious botanists will want to know that this addition to the BSBI Handbook series is available. I'll start with one or two reservations. Having praised *Fumitories* for its focus on a small number of critical species, I am bound to regret that here we have a huge volume, running to more than 600 pages. It will not easily fit into pockets, although my paperback version comes in a plastic case, which should keep the raindrops off whenever I take it into the field. The feel of the book, its comprehensive text, clear type and fine illustrations will encourage me to do this.

I regret that the authors were unable to sneak distribution maps into the text; there is often blank space at the end of long, excellent species descriptions which cries out for such a map. I also wonder why this handbook has reverted to the politically incorrect term 'British Isles', when previous volumes have seen the light on this small but significant detail. I would prefer that we had a botanical society of Britain and Ireland.

These are minor caveats. I enjoyed the introduction and early sections, which give a splendid overview of grasses. We then have a key to unlock the identity of each baffling piece of greenery, taking us from tribe to genus and on to species. This is perhaps this volume's greatest strength. A lengthy species description gives us everything we should want to know about the plant, its habits and habitats, identification tips and so on. Then there are those illustrations I have mentioned.

This is rather more than a worthy volume which no doubt took a long time and a vast amount of effort to put together. It is also a milestone; a new way in to an incredibly important group of plants, which shape habitats and, indeed, all human life.

James Robertson

Mammal news

The prolonged snow over winter gave mammal surveyors the chance to do some tracking. Anna Williams followed what she thought were **fox** tracks up Moel Eilio as it ranged up the ridges, and **hares** in the mountain foothills of Snowdonia were clearly visible as they were disturbed from clumps of rushes. Ben Stammers managed to catch an atmospheric image of one in early January.

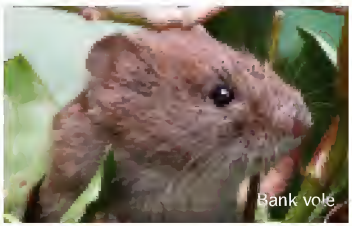
Craig Shuttleworth from the Anglesey Red Squirrel project reported the capture of two male **red squirrels** in Faenol and Treborth gardens on the mainland along the Menai Strait in early November. Hair samples were collected in order to identify haplotype and hence the origin of the pair. This raises issues about movement of reds on and off the island and potential implications for disease transfer if individuals come across greys.

Vincent Wildlife Trust continue to receive many reports of **pine marten** sightings, with some good records coming from Snowdonia. They are planning to respond to good quality sightings using a 'hot pursuit' approach – visiting the site quickly after the sighting was reported to set up monitoring equipment and look for scats - so please send any sightings of them to **neiljordan@vwt.org.uk** or **07799 847740**. In spring 2010, the Trust is holding Pine Marten training workshops, which will feature talks and displays, and training in the necessary equipment used to detect and monitor pine martens, including hair-tubes and den boxes.

Ben Stammers saw a **common seal** again at Aberogwen, Bangor in December feeding at the mouth of the Afon Ogwen at high tide, and his day was brightened by the finding of an otter spraint on top of one of the meadow stiles at the Wildlife Trust Cors Goch nature reserve on Anglesey in the summer.

Geoff Gibbs reported that the feeders at the Wildlife Trust Spinnies nature reserve provide food for some **bank voles**. They pop in and out of holes below the feeders, and take fragments falling from the feeders above.

Michael D Smith



Bank vole

A dead **badger** on the road at the Wildlife Trust Cemlyn nature reserve in north Anglesey earlier this year was a surprise to most of us as it is outside of its commonly known range – has anyone any more records from this part of Anglesey? Also at Cemlyn in September, the stranding of a **Risso's dolphin** at Cemlyn nature reserve was puzzling. It is significant as one of only two recent Risso's strandings in Wales, the other being in Trearddur Bay, Anglesey, in 2002. Risso's look and behave very differently from their better known cousin, the bottlenose dolphin. They are specialist squid hunters, so often feed around deep underwater trenches, and unlike bottlenoses they don't normally approach boats. Their skin is intriguing, and tells their life story. Born a dark grey, adult Risso's are sometimes almost white in colour due to the accumulated scratchings and tooth markings that seem to be a ritual part of their behaviour. This was evident in the Cemlyn animal – an incredible personal history encoded in hundreds of spots and scars. As to how and why this particular dolphin died, tests are still being carried out, so the final verdict is pending, but an autopsy showed that it had suffered a traumatic dose of the bends. This suggests it had been panicked into surfacing or diving more quickly than its body was able to deal with and there's been some speculation that the use of powerful sonar in the areas may have triggered this. Whatever the cause of the stranding, this discovery highlights the conservation importance of the marine environment off Anglesey and the valuable work of monitoring these fascinating and mysterious animals. It is becoming increasingly clear that the Anglesey coast is an important and regularly used area for them.

I'd be interested to hear records of any **stoat** in ermine. Winter whitening is controlled by temperature and heredity, and in Wales and Scotland white and pied coats are often evident in winter. Stephen Westcott was lucky to see a stoat in ermine last March above the Aber Falls. **Weasels** may also whiten in winter but this is rare in Britain. A study in the 1930s of weasels from Britain, Scandinavia and Greenland showed that the critical temperature for their coats whitening was around 5˚ C lower than for stoats.

Frances Cattanach is Director, North Wales Wildlife Trust

New guidance on managing woodlands to protect birds in Wales

As in other parts of the UK, the population densities and ranges of a significant number of Welsh woodland bird species are in decline. Although the precise causes are not fully understood, research is indicating that changes in woodland management are a significant factor – hence the need for management based on sound guidance is pressing.

Pied flycatcher

Alastair Robertson

Woodland Management for Birds: a guide to managing woodlands for priority bird species in Wales ***has been jointly published by the Royal Society for the Protection of Birds (RSPB) and Forestry Commission Wales (FCW) with the support of Countryside Council for Wales (CCW). This new guide will help managers improve woodlands for birds.***

Ongoing research is identifying the importance of active woodland management in improving habitats for birds and other wildlife. Beneficial active management includes thinning to let in more light and enhance the understorey, increasing standing and felled deadwood, and reinstating and widening rides. These actions help to produce a more varied vegetation structure, increasing the number of insects on which birds feed, and creating more nest sites.

However, population densities of woodland birds and the composition of woodland bird communities are influenced by a complex mixture of factors, not only how the woodlands are managed. The increasingly widespread effects of atmospheric pollution are considered to be reducing invertebrate biomass, which in turn can limit foraging opportunities. The disrupted synchronicity of foliage development and nesting dates in several species is thought to be due to climate change, which may also affect the conditions on migration and wintering grounds. Encouraging active woodland management to improve habitats can make an important contribution to helping increase populations.

Wild bird populations are considered a good indicator of the general state of the health of the wider environment. Indicators, such as the Breeding Bird Survey and the Wild Bird Indicator, show populations fluctuating widely over the last three years, with increases of some species balanced by the declines of others. The Welsh Assembly Government uses the former as a measure of Welsh environmental quality. Over the longer term, the ranges of almost a third of woodland birds have declined.

Woodland Management for Birds deals with species that are considered priorities for conservation in Wales, and the management issues that relate to them. It includes those woodland birds identified in the list of Principal Biodiversity Species in Wales under Section 42 of the Natural Environment and Rural Communities (NERC) Act 2006, and other species of conservation importance, eg rare breeding birds. The woodland management methods discussed will also benefit a much wider range of woodland birds, and other woodland biodiversity, by improving the structural complexity of woodland (broadleaved, mixed or coniferous). In addition, there is guidance on legal aspects relating to protected species likely to be influenced by woodland management.

In 2010 workshops for woodland managers will be run to introduce the guide and demonstrate some of the management advice it contains. Contact Jane Holloway in FC Wales to obtain a copy of the guide (£14.95 plus p&p), or download it free via the link on the Forestry Commission web site at: **www.forestry.gov.uk/forestry/INFD-7ZWGSA** **jane.holloway@forestry.wales.gsi.gov.uk** or **0300 068 0075**

Chris Tucker *is Biodiversity Policy Manager at Forestry Commission Wales. Chris.tucker@forestry.gsi.gov.uk*

The Green Valleys

As reported in the last edition of Natur Cymru, The Green Valleys Community Interest Company was one of three top winners in the Big Green Challenge, a community carbon reduction competition run by NESTA, the National Endowment for Science, Technology and the Arts. The Green Valleys was awarded £300,000 to take forward their projects centred around the development of small hydro-electric generators, many of which would be community owned and so generate income to fund other environmental, social and carbon reduction projects within that community. The NESTA judges praised The Green Valleys for the ingenious financial model and the strong environmental and social links that are the core of the project.

With the prize money, The Green Valleys will be working over the next year to design and secure the necessary permissions for ten more small generators across the Brecon Beacons, and to develop best practice approaches to environmental protection and enhancement of catchment habitats associated with the schemes. Other community projects include the development of community woodland groups to provide local sources of wood fuel while enhancing biodiversity, access and education use of local woodlands; community growing initiatives on allotments and orchards; a biodiesel club for locals to access green fuels; development and support for more community groups across the region; and continuing a carbon audit of homes to better understand the carbon savings delivered at a community level. The Green Valleys has an ambitious aim to make the Brecon Beacons region carbon neutral by 2025.

Gareth Ellis, Biodiversity Officer, Brecon Beacons National Park

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Natur Cymru - identifying and recording

Natur Cymru took part in the Wales Biodiversity Partnership conference last autumn, hosting a workshop to stimulate ideas for ways in which we could provide practical help. The suggestion that received the most support was for assistance in promoting the recording of species across Wales.

The first species group for us to look at will be the bumblebee, with 24 species in the UK of which 20 occur in Wales. Six of these are relatively common, widespread and easy to identify whereas others, such as the cuckoo bumblebees and the rarer species, will require a more detailed examination and understanding of bumblebee anatomy.

The widespread loss of flower-rich habitats has had a dramatic impact on bumblebee populations, with many species thought to be in decline, ten species in significant decline and two species already extinct in the UK. Though they are commonly seen there is a lack of up-to-date, accurate records, which are vital in order to prioritise conservation efforts.

Bumblebees have received relatively little focus from within conservation

Mandy Marsh

organisations and are often overlooked during site visits and surveys. They support wild and agricultural plants through provision of pollination services and so contribute significantly to the conservation of biodiversity as well as being of value in their own right.

The intention is to begin building up skills through bumblebee identification and then extend into other members of the hymenoptera group which includes sawflies, wasps, ants and other types of bee.

Natur Cymru's precise role and contribution is yet to be determined but will undoubtedly involve close collaboration with the species experts and with the Local Record Centres which were featured in the Spring 2008 edition of Natur Cymru. Watch this space!

Huw Jenkins

Dweud eich dweud

Llanast Niwbwrch

Rhwystredigaeth yngl n â diffyg cynnydd gyda'r gwaith o adfer twyni Niwbwrch i gyflwr ffafriol drwy glirio'r goedwig estron sydd wedi ysgogi ***Iwan Edgar****, o Bwllheli, i ysgrifennu'n uniongyrchol at y Comisiwn Ewropeaidd i gwyno bod Llywodraeth Cynulliad Cymru wedi methu cydymffurfio â deddfwriaeth. Yma mae'n egluro'r cefndir a'r camau mae wedi cymryd...*

Flynyddoedd yn ôl yn y saithdegau cynnar, ar ryw faes Eisteddfod cofiaf grwydro i mewn i babell y Comisiwn Coedwigaeth. Yno ar y byrddau arddangos yr oedd y Comisiwn yn ymorchestu yn ei lwyddiannau. Cofiaf yn dda mai un o'r pethau yr oedd yn jarffio amdano oedd llenwi talp mawr o dwyni Niwbwrch gyda chonwydd, yn ymffrostio bod lle mor ddiwerth wedi ei droi er ein budd ni oll.

Yr oeddwn yn flin am y peth ar y pryd. I mi, bu rhyw gyfaredd naturiol unigryw i gynefin prin fel twyni tywod. Efallai fod "dwnan", (fel mae pobl Pwllheli fel fi'n galw'r nodwedd) yn rhywbeth sydd wedi cydio yn fy nychymyg ers oed cynnar. Er bod tipyn o dwyni i bob cyfeiriad o Bwllheli, o gymharu â'r hyn sy'n Niwbwrch, mae'n siŵr eu bod yn dipyn llai.

Gyda llawenydd y clywais rai blynyddoedd yn ôl bod y rhod wedi troi a bod oes gallach wedi gwawrio i geisio dadwneud y fandaliaeth y bu'r Comisiwn Coedwigaeth yn gyfrifol amdano yn Niwbwrch, a bod y coed estron melltigedig hynny i gael eu clirio o'r lle. Yr oedd y lle wedi ei ddynodi yn ACA Ewropeaidd a sylweddoliad fod cynefinoedd mor anhygoel o brin a gwerthfawr a oedd ar ôl, bellach i'w diogelu rhag eu hanrheithio gan bob math o bwysau difäol yn gytiau gwyliau a charafannau a phetheuach o'r fath.

Ond gyda gofid clywais sibrydion fod rhyw lobi huawdl wedi ymddangos a oedd yn daer am gadw'r coed - eu bod yn lle neis i fynd a chŵn am dro drwyddynt. I bob pwrpas ymddangosai fod rhyw ddiffyg sylweddoliad o wir werth y lle a bod torri coed yn rhywbeth yn ymosodiad ar fywyd gwyllt. Dyna pryd y dechreuais ohebu â'r awdurdodau perthnasol i ofyn beth ar wyneb y ddaear oedd yn digwydd.

Dair blynedd a mwy yn ddiweddarach, yr wyf yn casglu fod yma esiampl ddifrifol o sut na ddylid trin y lle a sut na ddylid mynd ati i drafod ACA. O fethu â gweld ddim llewyrch ar y llwybr conwydd dudew hwn, drwy flerwch trin pobl a ffugwyddoniaeth, dyma benedrfynu cwyno heibio'r awdurdodau sydd i fod i ymorol am y lle. Gan ymbalfalu drwy safleoedd gwe i weld pa awdurdodau Ewropeaidd uwch y gellid erfyn am eu hymyrraeth, dyma gael hyd i ddau ŵr sydd i fod i fod yn ymgiprys â'r ystyriaeth.

Nid wyf eto wedi cael ateb. Am i mi ysgrifennu'n Gymraeg, dichon y gallwn fod yn disgwyl yn hwy. Ar y cyflymder malwen mewn col-tar sydd ohoni yn Niwbwrch, mae hynny'n bur briodol. Wn i ddim beth yn union fydd yr ateb - a faint mwy o wleidyddiaeth yn hytrach na gwyddoniaeth fydd yn pennu tynged y safle.

Yn y cyfamser cefais y cysur o wybod fod rhyw glefyd ar rai o'r coed ac nad ydynt mor holliach â hynny. Ond fel y gwelaf hi, bydd pa mor hir y cânt lonydd i fod yno yn fesurydd o anaeddfedrwydd gwarchodaeth natur yng Nghymru ac yn wir yn Ewrop. Ia, amser a ddengys - ond amser maith mae'n beryg'. Ceir gweld.

CCGC

Niwbwrch 1967

Nature at large

A liking for lichens

If anyone had told me when I was young that I would one day spend six hours in a damp wood with my nose against a tree, I might have broken down and sobbed. Surely the education system had something more to offer me? How would I explain it to my parents? And yet on a mellow autumn day last year that is exactly where I found myself. If you had been at Coed Ganllwyd Nature Reserve that day you might well have seen me as part of a small flock of nascent lichenologists moving slowly (very slowly) from tree to tree.

We were shepherded by lichen expert Steve Chambers from the Welsh Assembly Government (WAG), and had barely left the roadside before Steve pointed out the smell of silage – nitrogen dioxide gas, contributing to an acidic atmosphere which can be detrimental to many lichens, and refusing to stay outside nature reserve boundaries. A few yards further on and the hand lenses were out as we all peered at a sycamore covered in lichens. After much examination and discussion we moved a few yards to the next tree: this was to be the pattern for the day.

Coed Ganllwyd is ancient oak woodland sitting astride the Afon Gamlan, and the high humidity from rainfall and river spray, as well as making your sandwiches damp, provides perfect conditions for a wealth of mosses, liverworts and lichens, making it one of the richest sites in north-west Europe. It is home to the rare tree lungwort

Mandy Marsh

lichen *Lobaria pulmonaria* (*Natur Cymru* 24:29). This lichen's survival here, with its preference for alkaline conditions, may be helped by the rainwater run off from nearby ruined walls built with lime mortar.

Lichens have many advantages as far as sedentary observers like myself are concerned. They are quite unafraid of people and let you pet them without biting you or running away. They do not migrate to Africa, and juveniles do not have confusingly different plumage. There are, however, approximately 1500 species in Wales, so getting familiar with a decent percentage of them is quite a tall order. In fact the biggest hurdle to studying lichens seems to be the constant reclassification and renaming of species which causes problems for the continuity of field recording. That, at least, is the impression I've got so far, but as a mere three-day old lichenologist my grasp of it is... small.

Lichens happily pose for photos and it's easy to carry fallen twigs back to the lab for identification. Two further days have been spent at Llysdinam Field Centre, attempting to cut fine sections for examination and identification under microscopes – a steep learning curve for someone who hasn't looked down a microscope since she was 13. It's quite a lot to take in, and I think so far I have absorbed the generalities rather than the finer details. Once you 'get your eye in' you see lichens everywhere.

All this hard studying is part of the Lichen Apprenticeship Scheme Wales (LASW). Lichenologists themselves are a declining species in Wales, and LASW has been set in an effort to address this. Staff, initially from public sector bodies (WAG, Countryside Council for Wales, Environment Agency Wales and Local Authorities), were invited to put themselves forward for 12-15 days training per year, away from their day jobs, to learn about the identification, ecology and management of lichens. It is not expected that all of the apprentices will go on to become experts, and to do so will in any case take many years. They will, however, gain a deeper understanding of the issues affecting lichens, and be able to assess sites for their lichen importance. There are other 'difficult' taxonomic groups where there is also a shortage of experts in Wales, such as bumblebees (see p45), fungi, bryophytes and so on. It is hoped that similar schemes can be set up to address this.

Meanwhile the next stop is Pembrokeshire and a week-long course at Orielton, where I can expect more practice at moving slowly and wielding a hand lens... Let's hope the weather is kind.

Mandy Marsh

Hysbysfwrdd / Noticeboard

If you would like your wildlife event to feature on these pages please contact us on 01248 387373 or email info@naturcymru.org.uk (entries may be edited). Please mention Natur Cymru if you attend any of these events.

British Trust for Conservation Volunteers

EBBW VALE EVENT
7 & 8 May *Family employment initiative.* Conservation tasks, taster sessions, bird box making, craft activities etc. The Works Site, Steelworks Road, Ebbw Vale. Details: **Julie Crandon 029 20 524273 j.crandon@btcv.org.uk**

Canolfan Amgylcheddol / Moelyci Environmental Centre

COURSES & EVENTS
The following courses are available in April, please contact us for details
Conifer Identification
Spring Bird Identification
Fruit Tree Volunteer Day
Cyflwyniad i Gadw Gwenyn / Introduction to Bee-keeping
Blodau Gwyllt y Gwanwyn / Spring Wildflowers Walk
Mid-week Volunteering Opportunities!
Every Thursday - Market Garden
Lôn Felin Hen, Tregarth, Bangor LL57 4BB **01248 602793**
www.moelyci.org
office@moelyci.org

Mammal Society

EASTER CONFERENCE & AGM
26-28 Mar Bangor University Sponsored by the Wales Mammal Group. Details at:
www.mammal.org.uk

Botanical Society of the British Isles

WELSH EXHIBITION MEETING & AGM
11-13 Jun Anglesey. Theme: Coast and heathlands. Open to members and the public. See **www.bsbi.org.uk**

Ymddiriedolaeth Natur Gwent / Gwent Wildlife Trust

COURSES
17 Apr *Dormouse Ecology & Conservation*
5 May *A Beginners Guide to Woodland Management*
19 May *Charcoal Making*
www.gwentwildlife.org
01600 740600
info@gwentwildlife.org

Field Studies Centres

COURSES
www.field-studies-council.org
0845 330 7378
enquiries@field-studies-council.org
Dale Fort, Haverfordwest
29 Mar-2 Apr *Seashore Ecology & Wildlife*
8-21 May *An Introduction to Seaweeds*
24-27 May *NVC: Saltmarsh, Sand Dunes & Shingle Ridges*
27-30 May *NVC: Cliff Top Communities & Maritime Heath*
Orielton, Pembroke
7-13 Apr *Maritime Lichens of Pembrokeshire*
9-13 Apr *Woodland Conservation & Management*
4-10 May *Mosses & Liverworts*
6-10 May *Coastal Plants in Pembrokeshire*
Preston Montford, Shrewsbury
6-9 Apr & 28-31 May *Reptiles & Amphibians*
6-9 Apr *Identifying Mosses & Liverworts*
12-17 Apr *Advanced Bryology Laboratory Course*
26-28 April *Working Towards Great Crested Newt Licence*
30 Apr-3 May *Songbird Identification*
30 Apr-3 May *Identifying Difficult Invertebrates*
14-17 May *Bird Survey Techniques*
21-24 May *Identifying Woodland Plants*
28-31 May *NVC: Grasslands*
Rhyd-y-creuau, Betws-y-coed
9-11 Apr *Sphagnum*

Centre for Alternative Technology, Machynlleth

COURSES 2010
26-28 Mar *Identifying Mosses, Liverworts and Lichens*
29 Mar-2 Apr *Sustainable Woodland Management*
30 Apr-2 May *Hurdles, Gates & Fences*
www.cat.org.uk 01654 705981
courses@cat.org.uk

British Myriapod & Isopod Group

ANNUAL FIELD MEETING
8-11 April Hawarden, Clwyd
Local naturalists/recorders are invited to attend. Beginners and experts all welcome. **Paul Harding: pha@ceh.ac.uk**

NATUR - Welsh Institute of Countryside & Conservation Management

DIGWYDDIADAU / EVENTS
Dates and venues to be confirmed - Contact NATUR for full details
www.natur.eu.com 07837 419995
events@natur.eu.com
May *Terrestrial and Freshwater Invasive Species Identification Workshop* (Mid-Wales)
May / June *Archaeology and Heritage Management* (Welshpool)
May / June *Ancient monument & landscape conservation & management techniques* (Plas Tan y Bwlch)

DACE, Prifysgol Swansea University

COURSES
19 Ebr /Apr *Biology of Algae and Lichens.* 10 weeks.
Ebr-Meh /Apr-Jun *Marine Field Studies.* 3 weekends
www.swan.ac.uk/dace
01792 602211
adult.education@swansea.ac.uk

School of Education and Lifelong Learning, Aberystwyth

COURSES
The following courses are available from April to July, please contact us for details:
Migrant Breeding Birds
Pond & Stream Invertebrate Life
Understanding British Mammals 1
Identifying Flowering Plants
Understanding British Mammals 2
Biospheres & the UNESCO Dyfi Designation
Plant Diversity
Botany for Gardening
Identifying Grasses, Sedges & Rushes
Understanding British Bats
learning@aber.ac.uk, 01970 621580
www.aber.ac.uk/sell/courses/lllearn/science/index.html

North East Wales Wildlife

COURSES
23 Mar *Basic Amphibian Course*
25 Mar *Basic Amphibian Course*
17-18 Apr *Advanced Amphibian Course*
Details: **01352 742115 or admin@newwildlife.org.uk**

Osprey

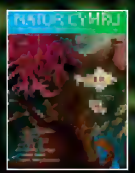
Emyr Evans

Diolch am y lluniau i / For illustrations, thanks to:
Mandy Marsh, Natural England, Alastair Robertson, Ben Stammers

Back issues of *Natur Cymru* (Nos 2 - 33) are available priced £3.00

Number Rhif 26

Number Rhif 27



Number Rhif 28

Number Rhif 29

Number Rhif 30

Number Rhif 31

Number Rhif 32

Number Rhif 33

Ben Stammers

Sandwich tern at Cemlyn

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